

SHARP®

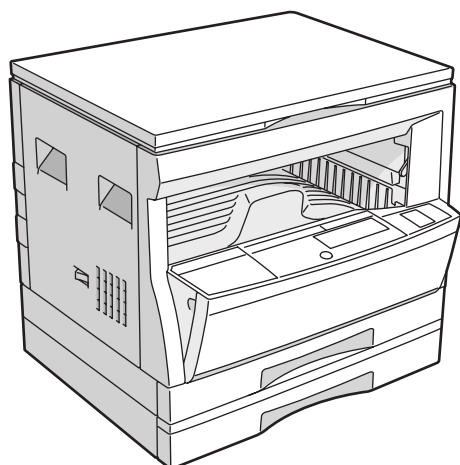
MODEL

AR-205

DIGITAL LASER COPIER


OPERATION MANUAL

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CAUTIONS

Follow the cautions below when using this copier.



Warning

- The fusing area is hot. Exercise care in this area when removing misfed paper.
- Do not look directly at the light source. Doing so may damage your eyes.



Caution

- Place the copier on a firm, level surface.
- Do not install the copier in a humid or dusty location.
- When the copier is not used for a long time, for example, during prolonged holidays, turn the power switch off and remove the power cord from the outlet.
- When moving the copier, be sure to turn the power switch off and remove the power cord from the outlet.
- Do not cover the copier with a dust cover, cloth or plastic film while the power is on. Doing so may prevent heat dissipation, damaging the copier.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser radiation exposure.


Cautions on laser

Wave length	785 nm ±10 nm
Pulse times	(8.141 μs ±0.1 μs)/7 mm
Output power	0.2 mW ±0.02 mW

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

GETTING STARTED

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APPENDIX

INTRODUCTION

This copier has been designed to provide convenient copying features in a minimum amount of office space and with maximum operational ease. To get full use of all copier features, be sure to familiarise yourself with this manual and the copier. For quick reference during copier use, keep this manual in a handy location.



This copier can be used as a laser printer and as a facsimile machine by installing optional components. However, this manual describes only the copier features. For description of the printer features and facsimile features, see their separate manuals. (Some options may not be available in some countries.)

Conventions used in this manual

In this manual, the following icons are used to provide the user with information pertinent to the use of the copier.



Warning

Warns the user that injury to the user or damage to the copier may result if the contents of the warning are not properly followed.



Caution

Cautions the user that damage to the copier or one of its components may result if the contents of the caution are not properly followed.



Note

Notes provide information relevant to the copier regarding specifications, functions, performance, operation and such, that may be useful to the user.



Indicates a letter displayed in the copy quantity display.

AB series (metric) and inch series references

Both specifications are quoted where applicable.

- The inch series specifications are quoted in brackets.

For example:

Page 18, step 1 ----- B4 or A3 (8-1/2" x 14" or 11" x 17")

Page 17, step 2-A ----- 86%, 81%, 70%, and 50% (95%, 77%, 64%, and 50%)

- Although AB series size indications are shown on the operation panel of this manual, inch series indications are displayed on the inch series machines.

[AB series]

○	A3	○
○	A4	○
○	A4	○
○	A5	○
○	B4	○
○	EXTRA	○

[Inch series]

○	11×17	○
○	8½×14	○
○	8½×11	○
○	8½×5½	○
○	8½×11	○
○	EXTRA	○

MAIN FEATURES

- ① **High-speed laser copying**
 - First-copy time is only 7.2 seconds (except in a power save mode or immediately after power on).
 - Copying speed is 20 copies/min., which adapts to business use, allowing improvement of working efficiency.
- ② **High-quality digital image**
 - High-quality copying at 600 dpi is performed.
 - In addition to the automatic exposure mode, the manual exposure can be adjusted in five steps.
 - The photo mode copying function allows clear copying of delicate halftone original images such as monochrome photos and colour photos. Photo mode is adjustable in five steps.
- ③ **Substantial copying features**
 - Zoom copying from 50% to 200% in 1% increments can be performed.
 - Continuous copying of maximum 99 sheets can also be performed.
 - Useful special features such as the XY zoom, black and white reverse, and dual page copy are available.
 - Toner save mode reduces toner consumption by approximately 10%.
 - User programs allow setting/modification of functions for customer needs. Also the user programs allow the internal auditor to be controlled.
 - Automatic two-sided copying can be performed.
- ④ **Scan once/ Print many (one-sided copying only)**
 - The copier is equipped with a 1-page memory buffer. This memory allows the copier to scan an original 1 time only and make up to 99 copies. This feature allows for improved workflow, reduced operating noise from the copier and reduced wear and tear on the scanning mechanism, which provides for a higher reliability.
- ⑤ **Optional features**
 - An optional single pass feeder (SPF) allows automatic document feeding of up to 30 sheets.
 - An optional reversing single pass feeder (RSPF) allows automatic document feeding of up to 30 two-sided originals.
 - An optional electronic sorting kit allows many useful copier features to be used. Multiple sets of copies can be sorted without the aid of a sorter and each set can be offset from the previous set. Also the erase, margin shift, and 4 in 1 and 2 in 1 functions are available. (To use the 2 in 1 and 4 in 1 and sort/group functions, an optional SPF or RSPF is also needed.)
 - This copier can be used as a laser printer by installing an optional printer expansion kit.
 - This copier can be used as a facsimile machine by installing an optional facsimile expansion kit.
- ⑥ **Environmentally friendly design**
 - Paper output tray is housed in the copier for space saving.
 - Preheat mode and auto power shut-off mode are provided to reduce power consumption in standby mode.

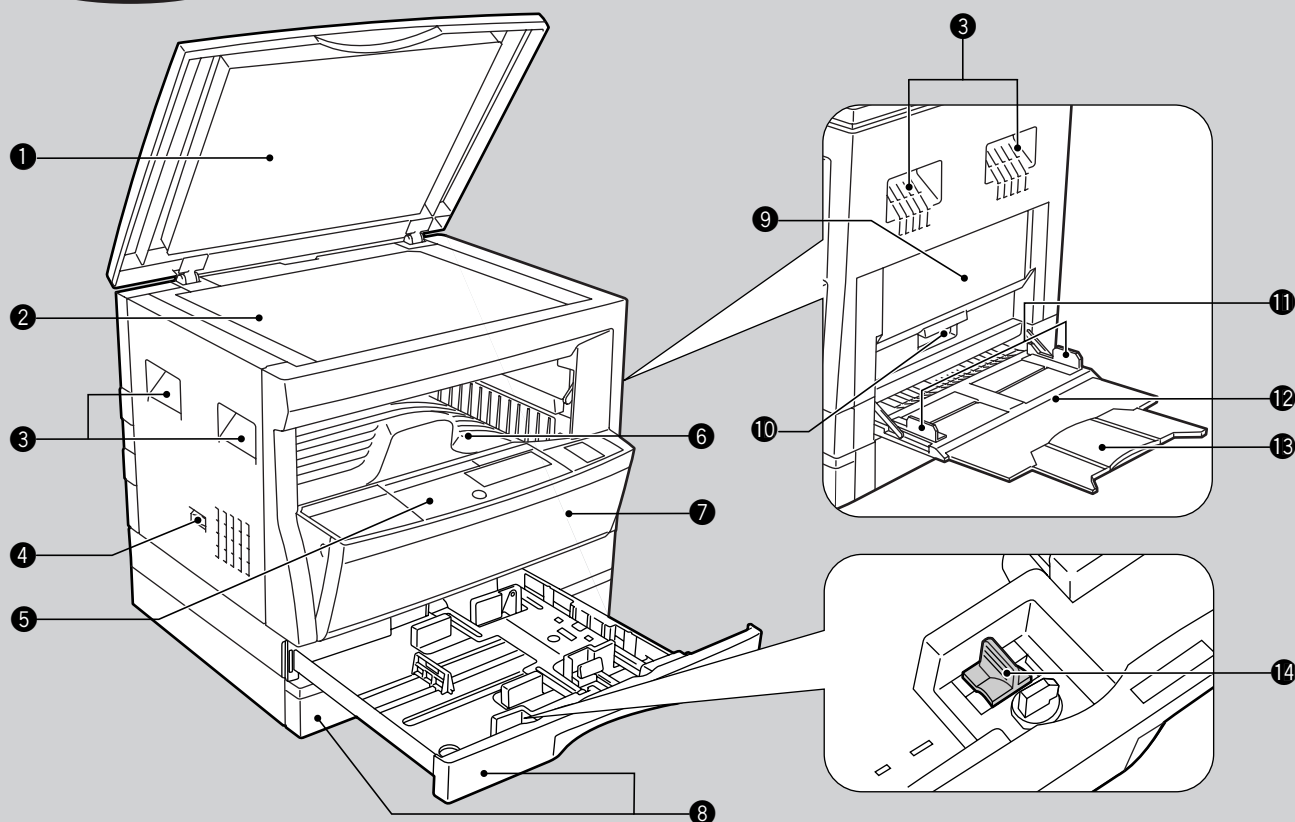


Note

- This copier does not have an internal calendar or clock. This copier will not be affected by the year 2000.
- Some options may not be available in some countries.

PART NAMES AND FUNCTIONS

Overall layout



1 Platen cover (optional)

Place the original on the original table and close the platen cover before copying starts.

2 Original table

Place the document to be copied here.

3 Handles

Use to move the copier.

4 Power switch

Press to turn copier power on and off.

5 Operation panel

All copier controls are located here for easy operation.

6 Paper output tray

Finished copies are deposited in the paper output tray.

7 Front cover

Open to remove misfeeds and for copier servicing.

8 Paper trays

Each tray holds 250 sheets of copy paper.

9 Side cover

Open to remove misfeeds and to service the copier.

10 Side cover handle

Lift and pull to open the side cover.

11 Bypass tray guides

Adjust to the width of the copy paper.

12 Bypass tray

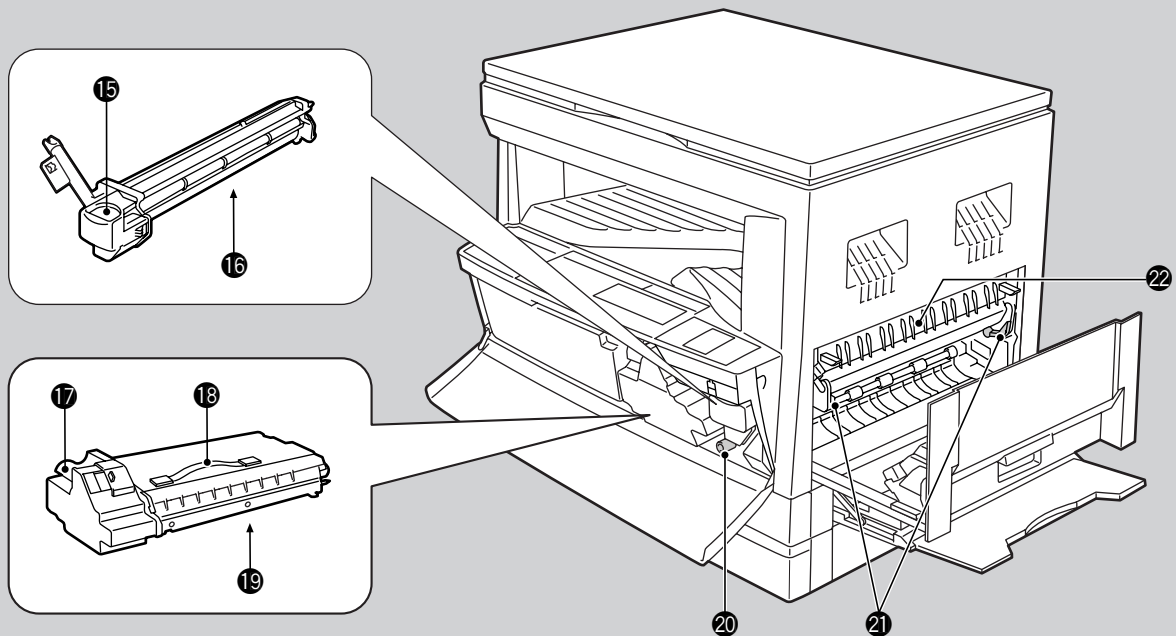
Special papers (including transparency film) and copy paper can be fed from the bypass tray.

13 Bypass tray extension

Pull out when feeding large paper such as B4 and A3 (8-1/2" x 14" and 11" x 17").

14 Charger cleaner

Use to clean the transfer charger.



15 Drum cartridge handle
Hold to pull out the drum cartridge.

16 Drum cartridge
Copy images are formed on the photoconductive drum.

17 TD cartridge lock release lever
Use to unlock the TD cartridge.

18 TD cartridge strap
Lift to remove the TD cartridge.

19 TD cartridge
Contains toner.

20 Roller rotating knob
Turn to remove misfed paper.

21 Fusing unit release levers
Lower to remove misfed paper.



Warning

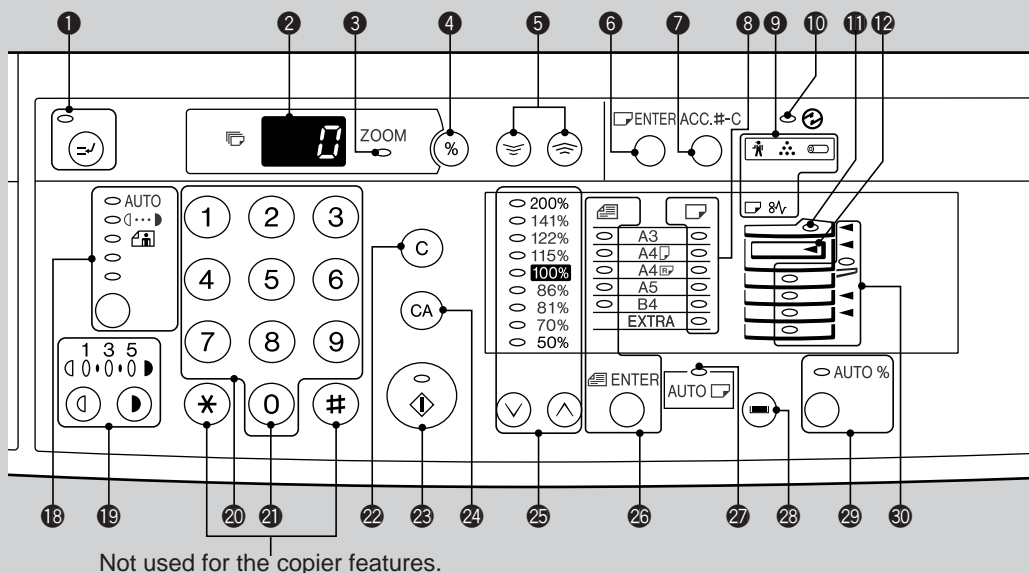
The fusing unit is hot.
Take care in removing paper.

22 Paper guide
Open to remove misfed paper.

Accessories

Operation manual	1
TD cartridge	1
Charger cleaner	1

Operation panel



1 INTERRUPT (⏏) key and indicator (p. 26)

Interrupts a copy run.

2 Copy quantity display

Displays the specified copy quantity during the ready condition and displays the copy countdown as copies are made. Also see items 4 and 21.

3 ZOOM indicator (p.17)

Lights up when a zoom ratio is set.

4 Copy ratio display (Ⓢ) key (p. 17)

Press and hold down during standby to display the copy ratio in the copy quantity display.

5 Zoom keys (p. 17)

Use to select any reduction or enlargement copy ratio from 50% to 200% in 1% increments.

6 PAPER SIZE ENTER (ENTER) key (p.12)

Use to set the paper size in a tray.

7 AUDIT CLEAR (ACC.#-C) key (p.13)

Closes an open account.

8 PAPER SIZE indicators

Light up to show the selected copy paper size.

9 Alarm indicators

- ⚠ : Maintenance indicator (p.38)
- ⋯ : TD cartridge replacement required indicator (p.29)
- ⚡ : Drum replacement required indicator (p.31)
- 📄 : Paper required indicator (p.10)
- ⚡ : Misfeed indicator (p.33)

10 POWER SAVE (⏻) indicator (p. 46)

Lights up when the copier is in a power save mode.

11 SPF indicator (p. 60)

Lights up when originals are set in the optional SPF tray.

12 Output tray full indicator (p. 67)

Indicates copies must be removed from the paper output tray.

13 B/W REVERSE (A-B) key and indicator (p. 24)

Press to reverse the black and white areas.

14 XY-ZOOM (Ⓢ) key and indicator (p. 22)

Use to change the horizontal and vertical copy ratios independently.

15 SORT/GROUP (1,2,3... / 1,1...) key and indicators (p. 67)

Press to select the sort or group mode when an optional electronic sorting kit and an optional SPF or RSPF are installed.

16 ORIGINAL DATA (DATA) indicator

Blinks when the memory becomes full of scanned original image data. (Used when an optional electronic sorting kit and an optional SPF or RSPF are installed)

17 2 IN 1 / 4 IN 1 (A-B / A-B) key and indicators (p. 69)

Press to select the 2 in 1 or 4 in 1 mode. (Only available when an optional electronic sorting kit and an optional SPF or RSPF are installed)

18 AUTO/MANUAL/PHOTO (AUTO/1... /) key and indicators (p. 14)

Use to sequentially select the exposure modes: AUTO, MANUAL, or PHOTO.

19 Light (Ⓛ) and dark (Ⓢ) keys and indicators (p. 15)

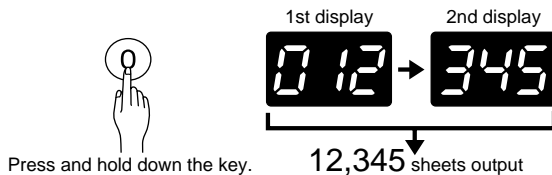
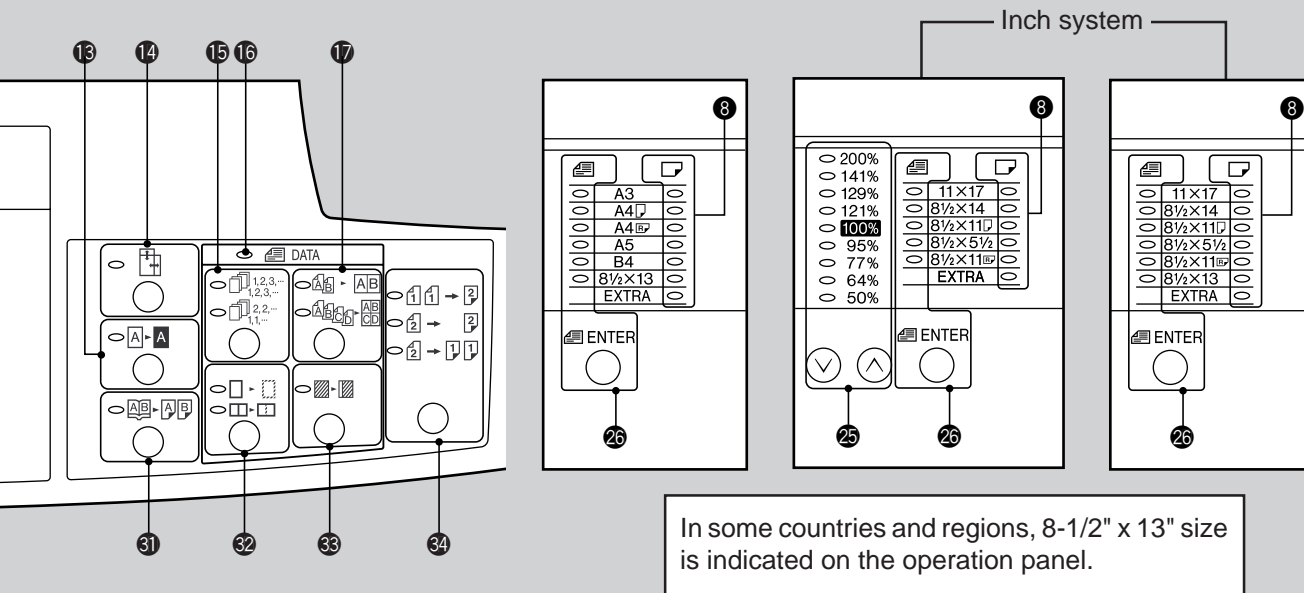
Use to adjust the MANUAL or PHOTO exposure level.

20 Numeric keys

Use to select the desired copy quantity or to make user program entries.

21 Zero key

Use as part of numeric keys to enter copy quantity. Press during a continuous copy run to display the number of copies completed in the current run. Press and hold during standby to display the total output count.



Press and hold down the key.

Note:

- Two-sided copies are counted as two copies.
- A3 (11" x 17") size copies are counted as two copies.

22 CLEAR (C) key

Clears the copy quantity display or terminates a copy run.

23 START (S) key and indicator

Copying is possible when the indicator is on. Press to start copying.

24 CLEAR ALL (CA) key

Clears all selected settings and returns the copier to the initial settings.

25 PRESET RATIO selector keys and indicators (p. 17)

Use to sequentially select preset reduction/enlargement copy ratios: 50%, 70%, 81%, 86%, 100%, 115%, 122%, 141%, 200% (50%, 64%, 77%, 95%, 100%, 121%, 129%, 141%, 200%).

26 ORIGINAL SIZE ENTER (ENTER) key and indicators

Use to input the original size.

27 AUTO PAPER SELECT (AUTO P) indicator

Paper of the proper size will be automatically selected depending on the original size and selected copy ratio when this indicator is on.

28 TRAY SELECT (T) key (p. 14)

Use to manually select a paper tray.

29 AUTO IMAGE (AUTO %) key and indicator

Press for automatic copy ratio selection.

30 Paper feed location/misfeed location indicators (p. 33)

The selected paper feed location is shown by a lit indicator (O).

The general location of misfed paper is shown by a blinking red indicator (◀).

31 DUAL PAGE COPY (AB-AB) key and indicator (p. 25)

Use to make individual copies of two originals placed side by side on the original table.

32 ERASE (E) key and indicators (p. 71)

Press to select the edge erase and/or the centre erase mode. (Only available when an optional electronic sorting kit is installed)

33 MARGIN SHIFT (M) key and indicator (p. 73)

Shifts text or image on the copy to leave a binding margin on the left (or the top) side of the copy. (Only available when an optional electronic sorting kit is installed)

34 ORIGINAL TO COPY key and indicators (p. 21, 60)

Press to select one-sided and two-sided copy modes.

1 1 → 2 : Two-sided copies from single-sided originals.

2 → 2 : Two-sided copies from two-sided originals. (Can be selected only when an optional RSPF is installed.)

2 → 1 1 : Single-sided copies from two-sided originals. (Can be selected only when an optional RSPF is installed.)

Initial settings

The copier assumes the initial settings when it is first turned on, when the CLEAR ALL (CA) key is pressed, or approximately one minute* after the last copy is made in any mode.

- Copy ratio: 100%
- Exposure: Automatic
- Copy quantity: 0
- All special copier modes: Off
- Auto paper selection: On
- Paper feed station: Previously selected paper tray

* This time (auto clear time) can be changed. See page 39, USER PROGRAMS.

COPIER INSTALLATION

Improper installation may damage the copier. Please note the following during initial installation and whenever the copier is moved.

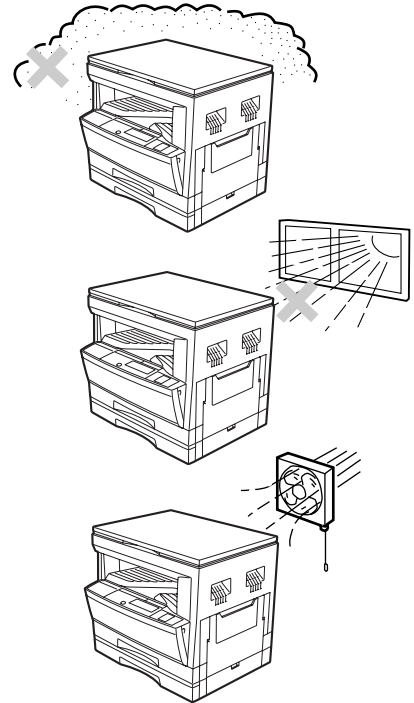


Caution

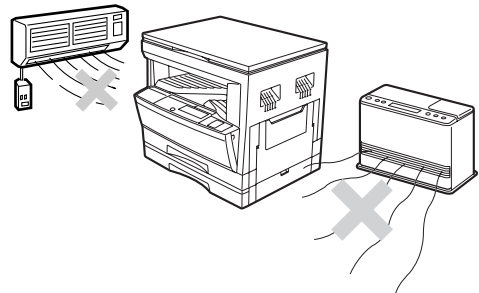
If the copier is moved from a cool place to a warm place, condensation may form inside the copier. Operation in this condition will cause poor copy quality and malfunctions. Leave the copier at room temperature for at least 2 hours before use.

Do not install your copier in areas that are:

- damp, humid, or very dusty
- exposed to direct sunlight
- poorly ventilated
- subject to extreme temperature or humidity changes, e.g., near an air conditioner or heater.



The copier should be installed near an accessible power outlet for easy connection.



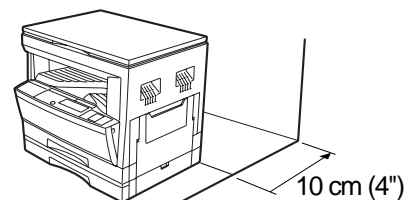
Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements. Also make certain the outlet is properly grounded.

- For this copier's power supply requirements, see the name plate located on the back of the unit.



Note

Connect the copier to a power outlet which is not used for other electric appliances. If a lighting fixture is connected to the same outlet, the light may flicker.

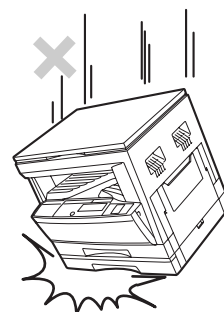


Be sure to allow the required space around the machine for servicing and proper ventilation.

CAUTIONS ON HANDLING

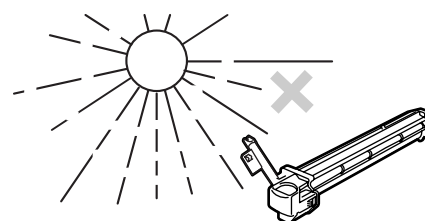
Be careful in handling the copier as follows to maintain the performance of this copier.

Do not drop the copier, subject it to shock or strike it against any object.



Do not expose the drum cartridge to direct sunlight.

Doing so will damage the surface (green portion) of the drum cartridge, causing poor copy quality.



Store spare supplies such as drum cartridges and TD cartridges in a dark place without removing from the package before use.
If they are exposed to direct sunlight, poor copies may result.

Do not touch the surface (green portion) of the drum cartridge.
Doing so will damage the surface of the cartridge, causing smudges on copies.



LOADING COPY PAPER

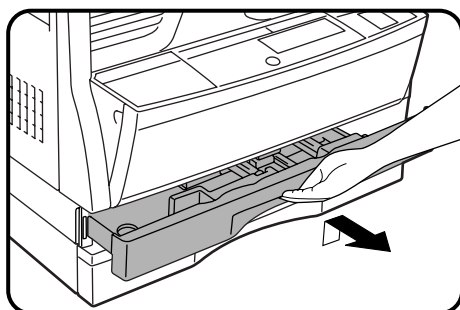
To save space, this copier has been designed with adjustable front-loading trays, which are easily opened for paper loading. For best results, use only SHARP recommended paper. (See page 52.)

The paper required () indicator will light up when there is no copy paper in the selected paper feed station, or when the selected paper tray is not installed or is improperly installed.

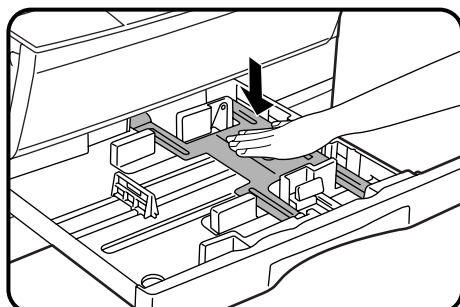


Note

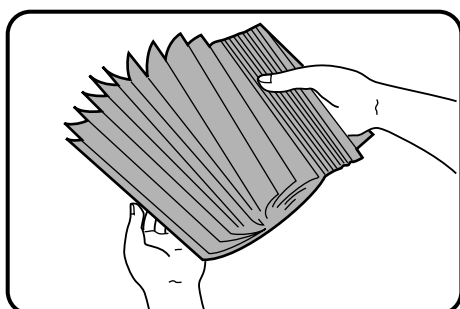
When the paper size is changed in a paper tray, the size of the paper must be entered by steps 8 through 11 on page 12. If not, the edges of copies may become smudged with toner. Also, the AUTO PAPER SELECT and the AUTO IMAGE features will not function properly.



1 Gently lift and pull out the paper tray until it stops.

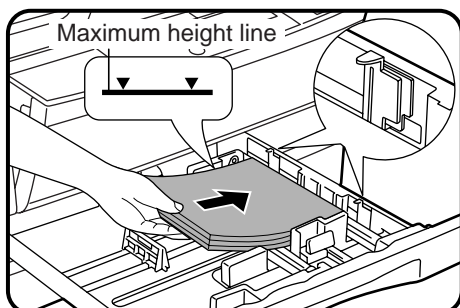


2 Push the pressure plate down until it locks in place.



3 Fan the copy paper and insert it into the tray. Make sure the edges go under the corner hooks.

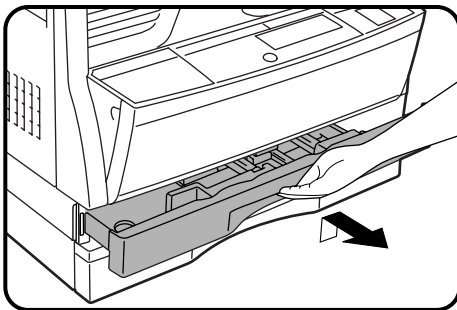
- If you change to a different size of copy paper, the tray must be adjusted. See the next page.



- Set the paper along the guides.
- The tray holds up to 250 sheets of paper.
Do not load paper above the maximum height line.

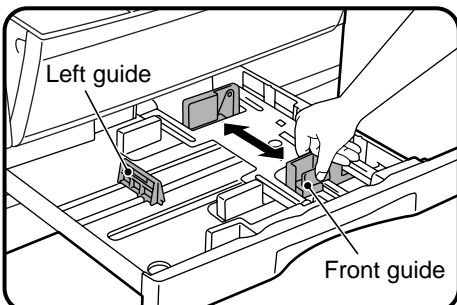
4 Push the paper tray firmly back into the copier.

Changing the copy paper size in the tray



1 Gently lift and pull out the paper tray until it stops.

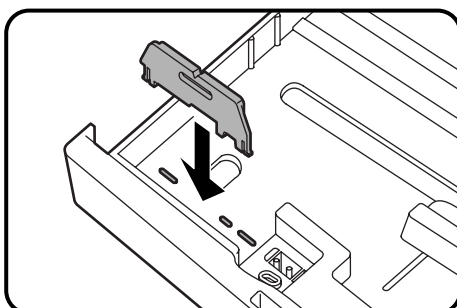
2 Push the pressure plate down until it locks in place.



3 Squeeze the lock lever of the front guide and slide the front guide to match the width of the paper.

4 Move the left guide to the appropriate slot as marked on the tray.

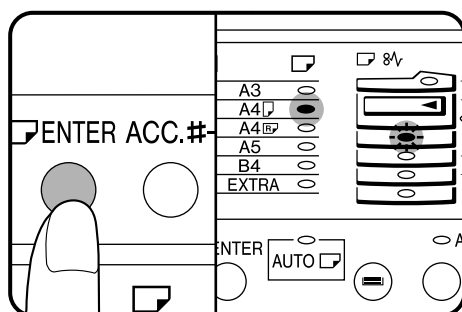
- When using A5 (5-1/2" x 8-1/2") copy paper, load it into the uppermost paper tray. If other trays (including trays in optional paper feed units) are used, paper misfeeds may occur.
- With inch system machines, when using A3 (11" x 17") copy paper, store the left guide in the slot at the left front of the paper tray.



5 Load copy paper into the tray.

6 Place the appropriate label to indicate the selected paper size into the recess on the right front side of the paper tray.

7 Push the paper tray firmly back into the copier.



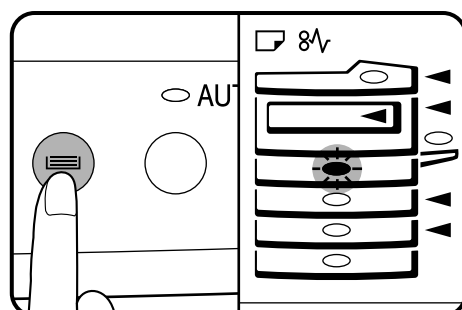
8 To set the selected paper size, press the PAPER SIZE ENTER (☐ENTER) key.

- The selected paper feed location indicator will blink and the corresponding paper size (which is currently set) indicator will light up steadily. All other indicators will go out.



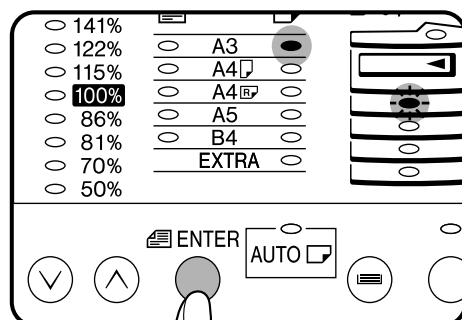
Note

For paper size setting, ensure that the COPY mode has been selected. However, if copying, printing or facsimile printing is being performed, paper size setting cannot be made even in the COPY mode. See Note on page 50.



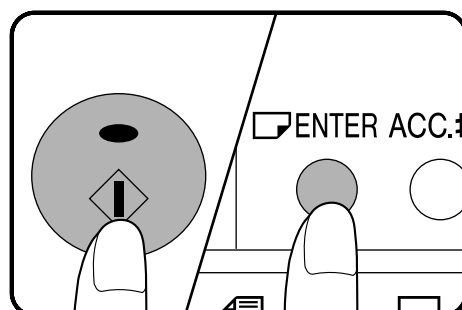
9 Use the TRAY SELECT (☐) key to select the paper tray of which the paper size has been changed.

- Each time the TRAY SELECT (☐) key is pressed, a paper tray will be indicated with a blinking paper feed location indicator.



10 Use the ORIGINAL SIZE ENTER (☐ENTER) key to select the paper size which is set.

- Each time the ORIGINAL SIZE ENTER (☐ENTER) key is pressed, a paper size will be indicated with a paper size indicator.

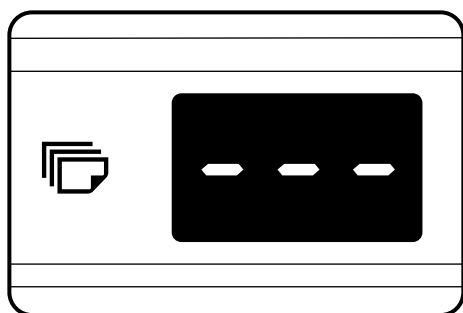


11 Press the START (Ⓢ) key and then the PAPER SIZE ENTER (☐ENTER) key.

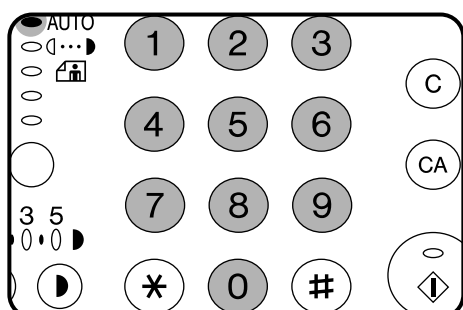
- To change the paper size setting of another tray, repeat steps 9 to 10 after pressing the START (Ⓢ) key.

AUDITING ACCOUNTS

If this copier has been programmed in the auditing mode, it will not function until an assigned 3-digit account number has been entered. See page 42 for setting the auditing mode.

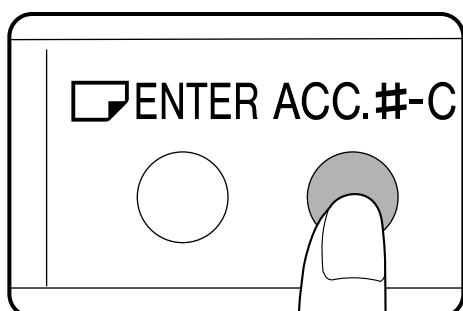


If the copier has been programmed in the auditing mode, “---” will appear in the copy quantity display in the initial conditions.



1 Enter your account number using the numeric keys.

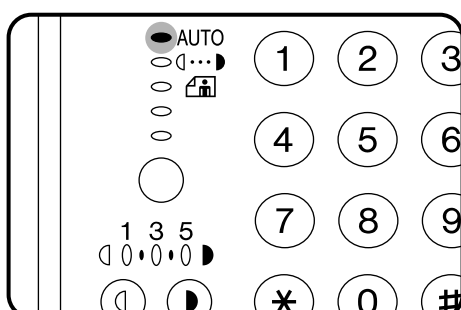
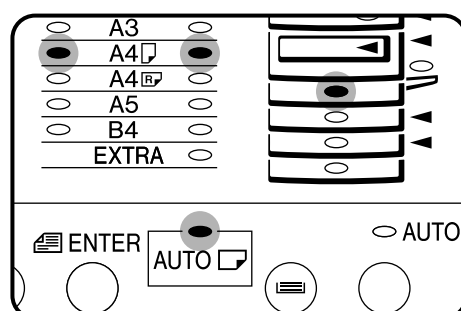
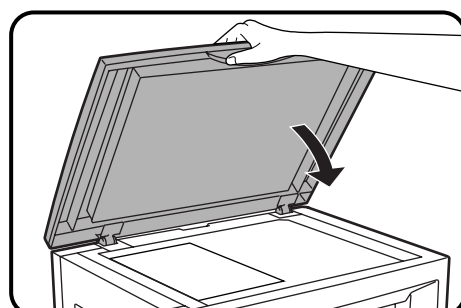
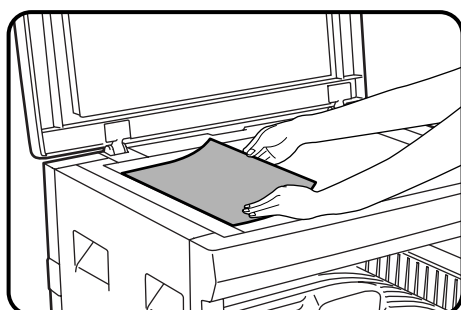
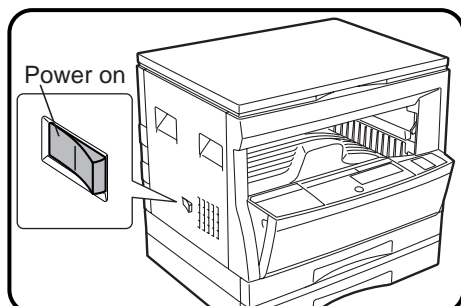
- As each digit is entered, the dashes in the copy quantity display will disappear.
- After the number is entered, the copy quantity display will change to 0.
- If an unassigned number is entered, “---” will appear again in the copy quantity display, indicating that the number was not accepted.



2 When copying is completed, press the AUDIT CLEAR (ACC.#-C) key.

- “---” will appear again in the copy quantity display, indicating the auditing mode.
- In the interrupt copy mode (see page 26), press the INTERRUPT (⊞) key after an interrupt copy run is completed. All previous copier settings will be restored and the previous account number will be active.

NORMAL COPYING



1 Turn the power switch on.

- It will take about 35 seconds for the copier to warm up. However, you can make desired settings and press the START (⏻) key during warm-up. Copying will start after warm-up.
- If the copier has been programmed in the auditing mode, the START key (⏻) indicator will not light up and “— —” will appear in the copy quantity display. Enter an assigned 3-digit account number. See page 13.
- If an optional printer expansion kit or facsimile expansion kit is installed, the power is already on and all indicators except the POWER SAVE (⏻) indicator are off, the copier is in the auto power shut-off mode. Press the START (⏻) key in this case. See page 46, POWER SAVE MODES.

2 Place the original face down on the original table. Align it with the original size scale.

- The ORIGINAL SIZE indicator for the size detected will light up.
- Image loss (max. 4 mm (5/32")) can occur at the leading and trailing edges of the copies. Also image loss (max. 4 mm (5/32")) in total) can occur along the other edges of the copies.

3 Close the platen cover.

- Paper matching the size of the original will be automatically selected when the auto paper select function is enabled. To copy onto paper of a different size, press the TRAY SELECT (≡) key.
- The auto paper select function can be disabled using user program No. 8. If this function is disabled, use the TRAY SELECT (≡) key to select the desired paper tray. See page 39, USER PROGRAMS.
- The bypass tray cannot be automatically selected.



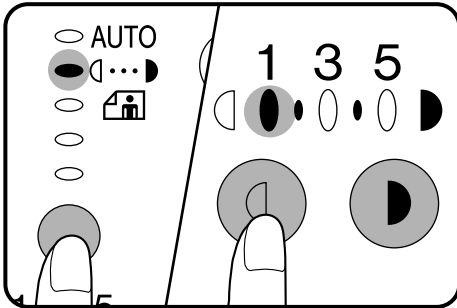
Note

In some areas, 8-1/2" x 13" sized paper can be used as standard sized paper. However, an original of this size will be sensed as B4 (8-1/2" x 14"). 8-1/2" x 13" size can be specified by using the ORIGINAL SIZE ENTER key.

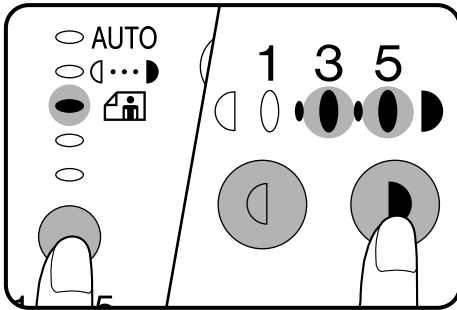
4 Ensure that the desired paper tray is selected.

5 Adjust the copy density.

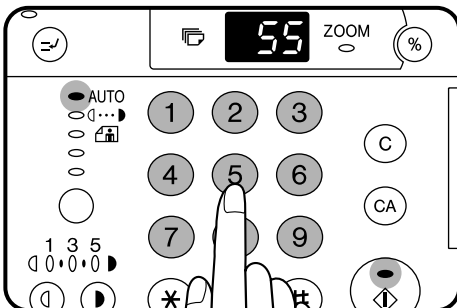
- This copier has three exposure modes to choose from — AUTOMATIC (AUTO), MANUAL (☐...☐), and PHOTO (📷).
- Automatic exposure is the standard initial setting for this copier. In this mode, the characteristics of the original are “read” by the exposure system and adjustments are automatically made. This optimizes the contrast of the copied images by reducing the effect of coloured or shaded background areas. See page 27 to adjust the automatic exposure level.



- For manual copy density adjustment, press the AUTO/MANUAL/PHOTO (AUTO/□...□/□) key to select MANUAL (□...□) and adjust with the light (□) and dark (□) keys as desired.

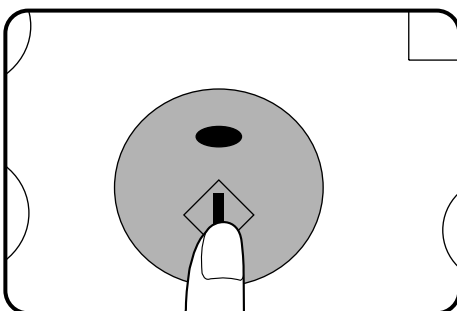


- For photographs, select PHOTO (□) and then adjust with the light (□) and dark (□) keys as desired.
- There are 5 exposure steps indicated by 3 indicator lights. (The indicators light up one or two at a time.)
If exposure level 2 is selected, the two left-handmost indicators for that level will light up simultaneously. Also, if level 4 is selected, the two right-handmost indicators for that level will light up simultaneously.



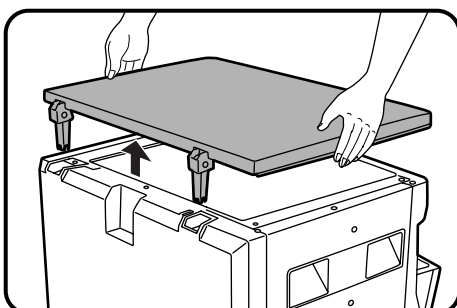
6 Set the number of copies using the numeric keys.

- A single copy can be made with the initial setting, i.e., when "0" is displayed.
- Press the CLEAR (C) key to clear an entry if a mistake is made.



7 Press the START (⏮) key.

- The number in the copy quantity display will decrease by 1 each time a copy is made.
- Press the CLEAR (C) key to stop copying in the middle of a run.
- To repeat the same copy sequence for a different original, simply replace the original and press the START (⏮) key.
- If the paper in the selected tray runs out during the copy run and no other tray contains the same size paper, the bypass tray can be selected using the tray select key.



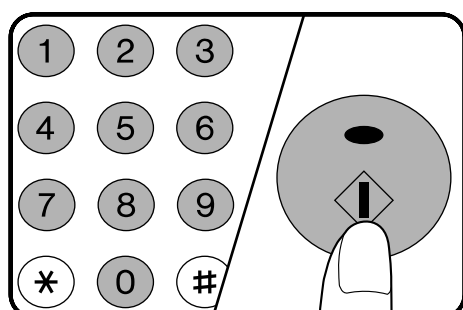
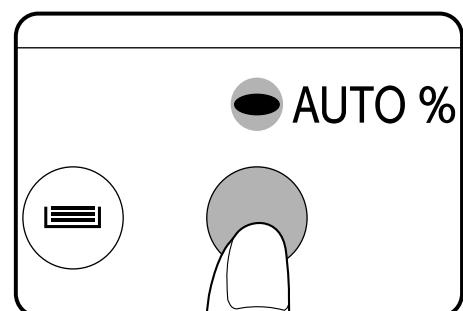
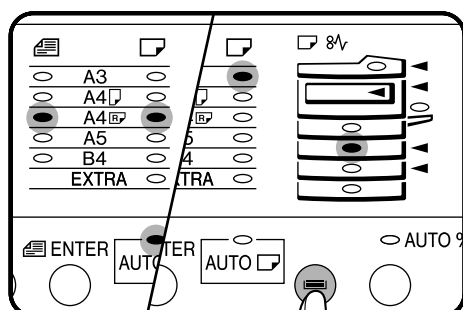
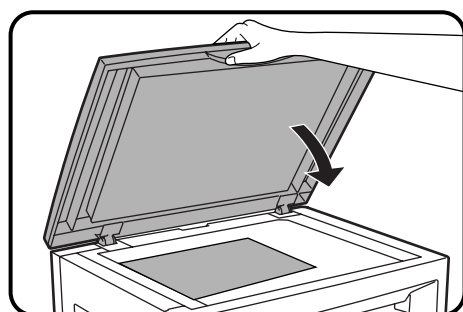
How to remove the platen cover

The platen cover can be removed to allow copying of bulky objects. To remove it, simply lift the platen cover straight up.

- To reattach the platen cover, reverse the above procedure.

REDUCTION/ENLARGEMENT/ZOOM

Reduction and enlargement ratios can be selected either automatically with the AUTO IMAGE (AUTO %) key or manually with the PRESET RATIO selector (V, ^) keys and/or the zoom (⊖, ⊕) keys. The zoom function enables precise copy ratio selection from 50% to 200% in 1% increments.



Automatic

1 Place the original on the original table and close the platen cover.

- The ORIGINAL SIZE indicator for the detected size will light up.

2 Use the TRAY SELECT (⊖) key to select the paper tray with the desired paper size.

- This feature will not work when copy paper of non-standard size is used or the bypass tray is used.

3 Press the AUTO IMAGE (AUTO %) key.

- The copy ratio will be automatically set.
- If the size and orientation of the original do not correspond to standard reduction/enlargement ratios for the selected paper tray, the ORIGINAL SIZE indicator will blink. However, if an optional electronic sorting kit is installed, the original image may be automatically rotated.
- If a PRESET RATIO indicator is blinking, part of the original image may not be copied.

4 Enter the number of copies.

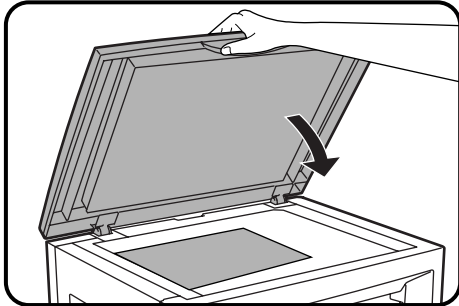
5 Press the START (⊕) key.



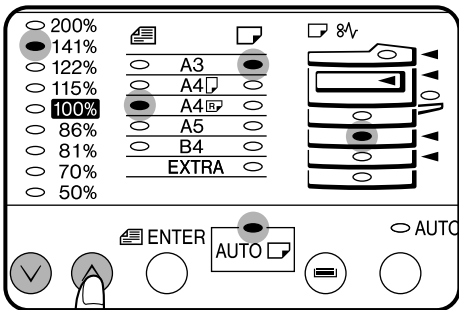
Note

- To cancel the automatic reduction/enlargement mode, press the AUTO IMAGE (AUTO %) key again.
- When copying from an optional SPF or RSPF with this feature, the automatic reduction/enlargement mode will be automatically cancelled after copying is complete.

Manual

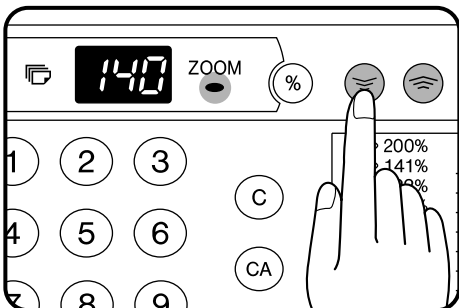


- 1** Place the original on the original table and close the platen cover.



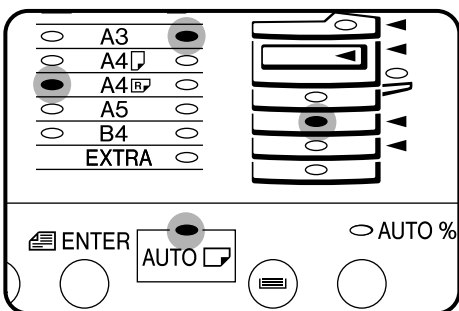
- 2** Use the PRESET RATIO selector (∇ , Δ) keys and the zoom (\odot , \ominus) keys to select the desired copy ratio.

- To select a preset reduction or enlargement copy ratio, press the ∇ or Δ key repeatedly until the indicator for the desired copy ratio is lit.
- A. Preset reduction ratios are: 86%, 81%, 70%, and 50% (95%, 77%, 64%, and 50%).**
- B. Preset enlargement ratios are: 115%, 122%, 141%, and 200% (121%, 129%, 141%, and 200%).**
- C. Zoom ratios: Any ratio from 50% to 200% can be set, in 1% increments. Press the ∇ or Δ key to set the approximate ratio, then press the \odot key to decrease the ratio or the \ominus key to increase the ratio.**
- When a zoom (\odot , \ominus) key is pressed, the ZOOM indicator will light up and the zoom ratio will be displayed in the copy quantity display for at least two seconds.
 - To verify a zoom setting without changing the zoom ratio, press and hold down the copy ratio display ($\%$) key. When the key is released, the display will return to the copy quantity display.
 - To decrease or increase the zoom ratio rapidly, press and hold down the \odot or \ominus key. However the value will stop at the preset reduction or enlargement ratios. To move beyond these ratios, release the key and then press and hold it down again.
- D. Same-size reset: Press the ∇ or Δ key repeatedly until the copy ratio returns to 100%.**

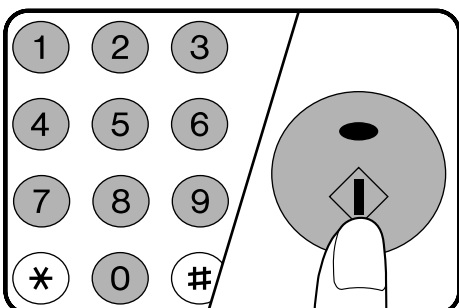


- 3** Ensure that the desired paper tray is selected.

- If the auto paper select function has been enabled, the appropriate copy paper size will have been automatically selected based on the original size and the selected copy ratio. If the selected PRESET RATIO indicator or the ZOOM indicator blinks, the selected copy image is too large for the copy paper size.
- If the auto paper select function has been disabled or if copying onto a different size paper, use the TRAY SELECT (\equiv) key to select the paper feed station with the desired paper size.



- 4** Set the number of copies and press the START (\odot) key.



BYPASS FEED (special paper)

The bypass tray is used to copy onto transparency film, labels, and other special purpose papers. Up to 100 sheets of standard copy paper can be set in the bypass tray.



Note

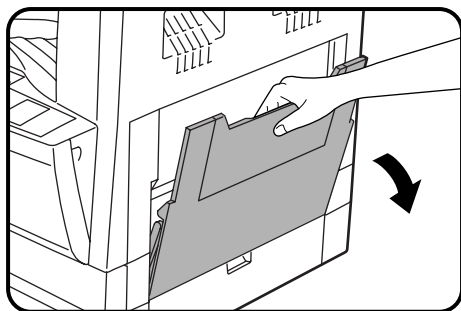
For special purpose papers, the original image must be smaller than the paper or media for copying.

If the original image is bigger than the paper or media, this may cause smudges on the edges of the copies.

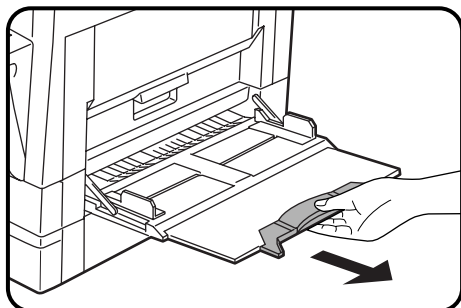
Also for standard copy paper, smudges may appear if the copy paper is not at least as large as the original image.

MAKING COPIES

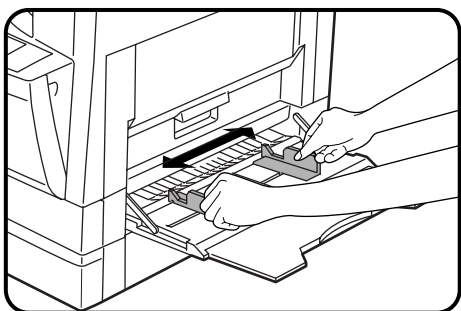
Bypass feed (special paper)



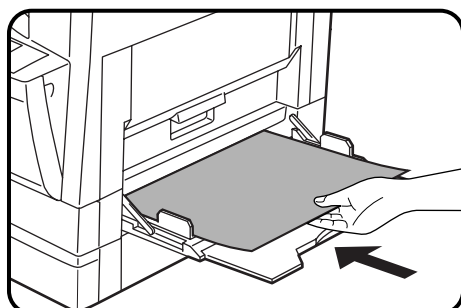
1 Unfold the bypass tray.



- When feeding B4 or A3 (8-1/2" x 14" or 11" x 17") sized paper, extend the bypass tray.

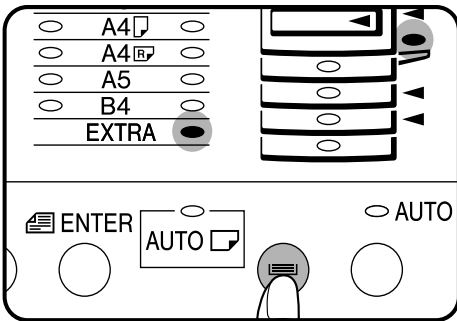


2 Set the paper guides to the copy paper width.

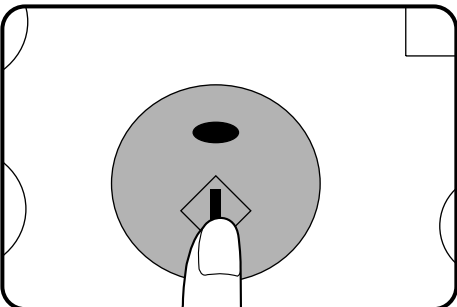


3 Insert the copy paper (print face down) all the way into the bypass tray.

- Up to 100 sheets of standard copy paper measuring from A6 to A3 (5-1/2" x 8-1/2" to 11" x 17") can be loaded in the bypass tray.
- A6 size paper must be fed narrow side into the feed slot.
- Transparency film, labels, and other special purpose papers (except envelopes) must be fed individually.
Up to 10 envelopes can be set.
- When adding paper, first remove remaining paper, combine it with the paper to be added and then reload as a single stack.
- When loading envelopes, make sure that they are straight and flat.



4 Press the TRAY SELECT (≡) key to select the bypass tray.

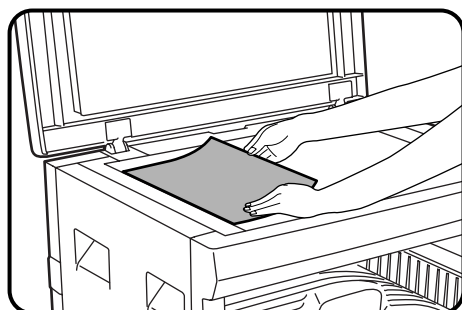


5 Leave the copy quantity at 0 if using special papers. Set the number of copies if using standard copy paper or envelopes.

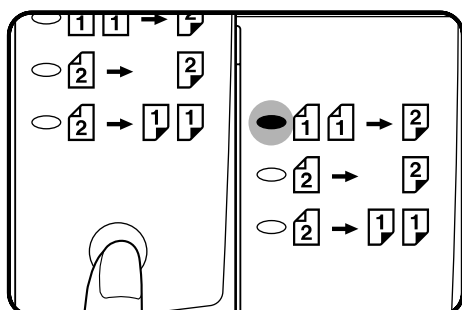
6 Press the START (⬇) key.

TWO-SIDED COPYING

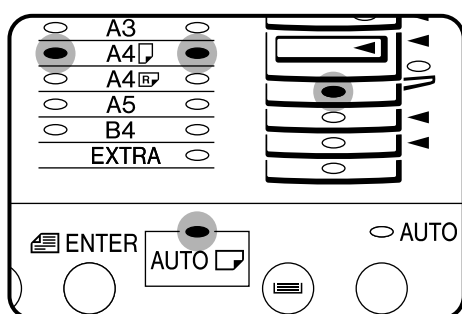
Automatic two-sided copying can be made with this copier. For two-sided copying from the original table, follow the procedure below. Fully automatic two-sided copies can be made from one-sided originals if either an optional single pass feeder (SPF) or an optional reversing single pass feeder (RSPF) is installed. See page 60. Additionally, fully automatic two-sided copying of two-sided originals or one-sided copying of two-sided originals can be made if an optional reversing single pass feeder is installed. See page 62.



- 1** Place the first original face down on the original table and close the platen cover.

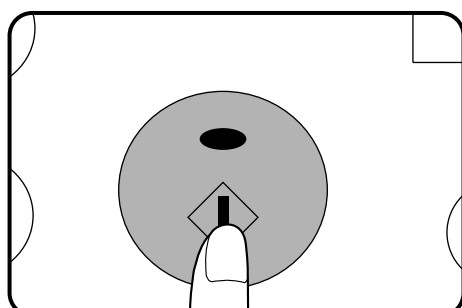


- 2** Press the **ORIGINAL TO COPY** key to select one-sided to two-sided (1 1 → 2) copying.



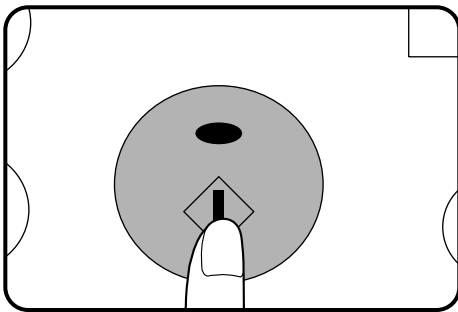
- 3** Ensure that the desired paper tray is selected.

- Paper sizes that can be used in the duplex mode are A5, A4, A4R, B4 and A3 (8-1/2" x 11", 8-1/2" x 11"R, 8-1/2" x 13", 8-1/2" x 14", and 11" x 17").
- 5-1/2" x 8-1/2" size paper cannot be used in the duplex mode.
- The bypass tray cannot be used in the duplex mode.



- 4** Press the **START** (⏮) key.

- The 1 1 → 2 indicator will blink.
- The copy will not be output until both sides have been scanned.



5 Place the second original face down on the original table and press the START (Ⓢ) key again to copy onto the other side.

- To stop a copy run during duplex copying, press the CLEAR (Ⓢ) key.
- To cancel the duplex mode, press the ORIGINAL TO COPY key until the indicators in the ORIGINAL TO COPY section all go out.
- If an uneven number of originals are set, press the ORIGINAL TO COPY key at the end of the copy run to output the last copy.

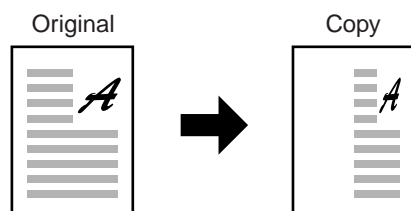


Note

The image of every front side can be rotated 180° using the image rotation feature. This feature is useful when the originals and copies are in the landscape (horizontal) direction and the two-sided copies are to be read by turning them left to right rather than top to bottom.

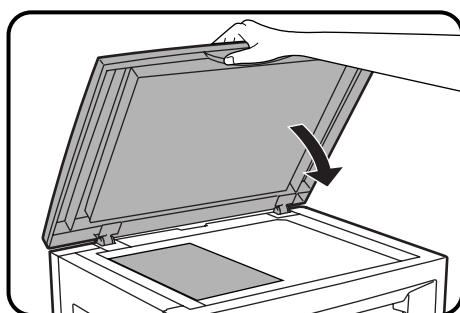
To set this feature, see page 64.

XY ZOOM

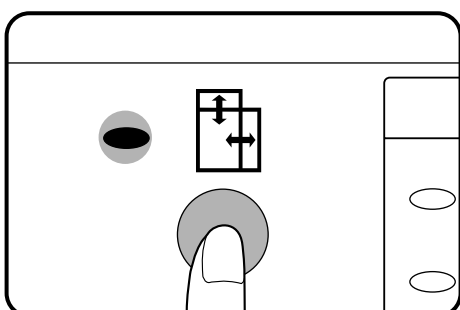


The XY ZOOM feature allows the horizontal and vertical copy ratios to be changed independently. This feature cannot be used with the 2 in 1 or 4 in 1 feature. (The 2 in 1 or 4 in 1 feature can only be used when an optional electronic sorting kit and an optional SPF or RSPF are installed.)

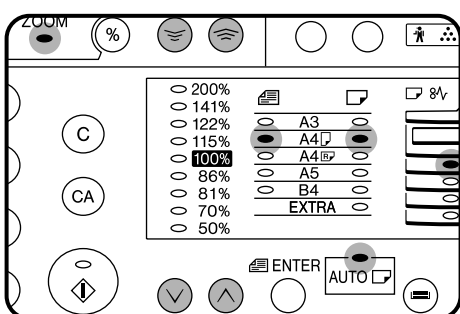
To use the XY ZOOM feature with the DUAL PAGE COPY feature, set the DUAL PAGE COPY feature first and then the XY ZOOM feature. (Enlargement cannot be set.)



- 1 Place the original on the original table and close the platen cover.

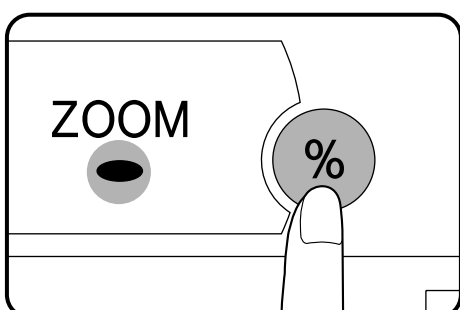


- 2 Press the XY-ZOOM (⊞) key.
 - The current value for the vertical direction will be displayed in the copy quantity display.

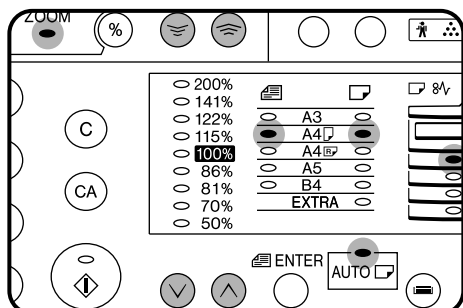


- 3 Use the PRESET RATIO selector (⏴, ⏵) keys and zoom (⏴, ⏵) keys to change the copy ratio in the vertical direction.

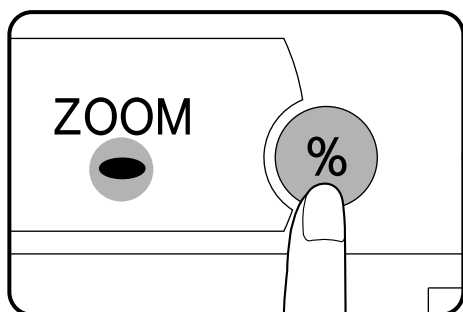
- Press a PRESET RATIO selector (⏴ or ⏵) key to set an approximate ratio, then press the ⏴ key to decrease the ratio or ⏵ key to increase the ratio. The copy ratio will be displayed in the copy quantity display.



- 4 Press the copy ratio display (Ⓢ) key.
 - The selected ratio for the vertical direction will be entered and the current value for the horizontal direction will be displayed in the copy quantity display.

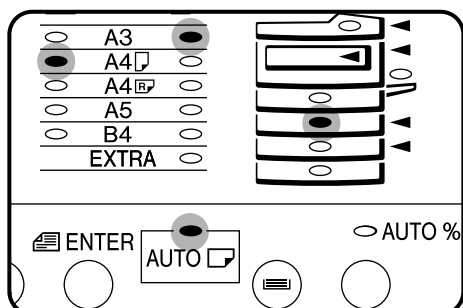


5 Use the PRESET RATIO selector (V, ^) keys and zoom (≡, ≡) keys to change the copy ratio in the horizontal direction in a similar manner as for the vertical direction.

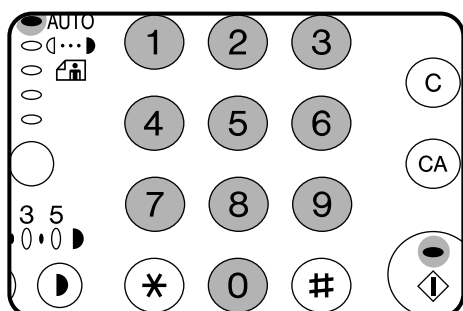


6 Press the copy ratio display (%) key.

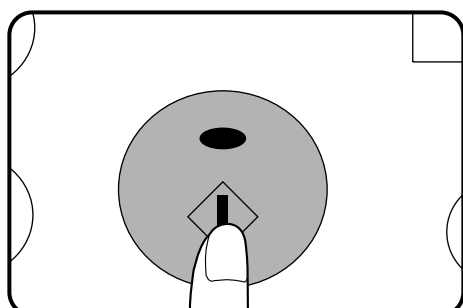
- The selected ratio for the horizontal direction will be entered and the display will change to the copy quantity display.
- To verify the copy ratios, press and hold down the copy ratio display (%) key. The vertical and horizontal ratios will be alternately displayed.



7 Ensure that the desired paper tray is selected.



8 Enter the desired number of copies.



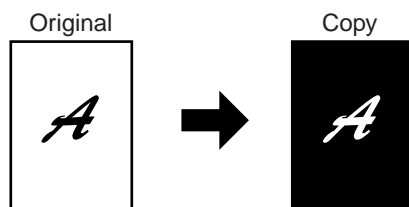
9 Press the START (⊕) key.



Note

- To change the copy ratios again, press a PRESET RATIO selector (V, ^) key or a zoom (≡, ≡) key. Then, perform step 3 and the succeeding steps.
- To cancel this function, press the XY-ZOOM (⊞) key again.

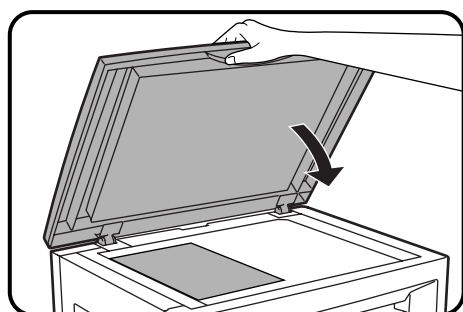
B/W REVERSE



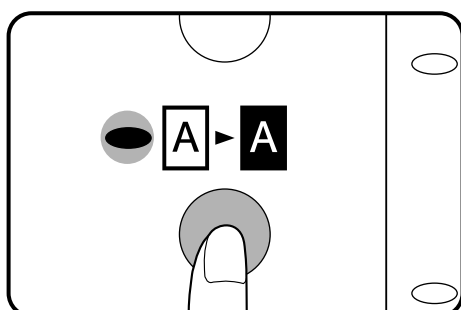
The B/W REVERSE feature is used to reverse black and white areas.

- When the B/W REVERSE feature is selected, the exposure mode will be automatically set to the MANUAL mode. Other exposure modes cannot be selected.

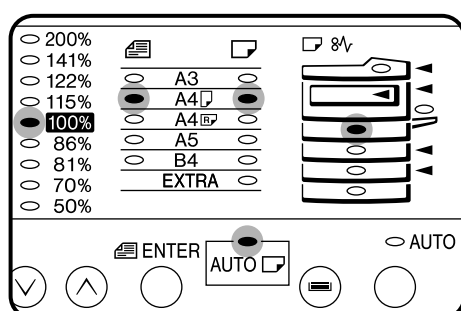
Even if this feature is cancelled, the MANUAL mode will not automatically be cancelled.



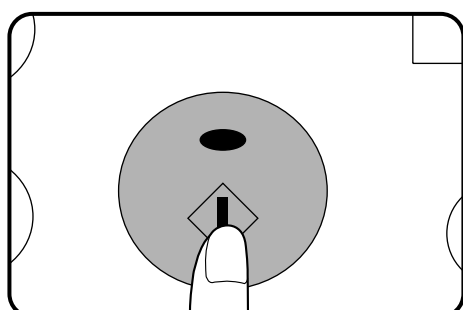
- 1 Place the original on the original table and close the platen cover.



- 2 Press the B/W REVERSE (A→A) key.

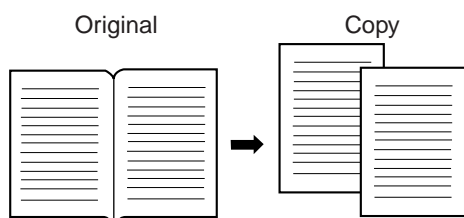


- 3 Ensure that the desired paper tray is selected.



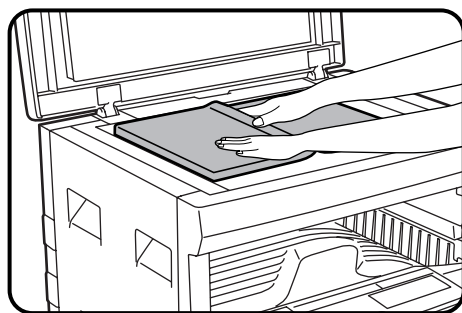
- 4 Make all other desired copier selections and press the START (→) key.

DUAL PAGE COPY



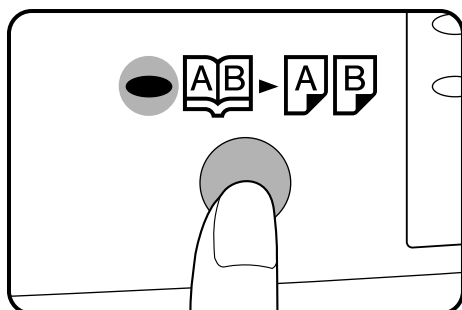
The DUAL PAGE COPY feature produces individual copies of two documents placed side by side on the original table. It is especially useful when copying books and other bound documents. This feature cannot be used with the 2 in 1 or 4 in 1 feature and sort/group feature. (The 2 in 1 or 4 in 1 feature and sort/group feature can only be used when an optional electronic sorting kit and an optional SPF or RSPF are installed.) If the AUTO IMAGE feature has been selected, this feature cannot be selected.

To use the DUAL PAGE COPY feature with the XY ZOOM feature, set the DUAL PAGE COPY feature first and then the XY ZOOM feature. (Enlargement cannot be set.)



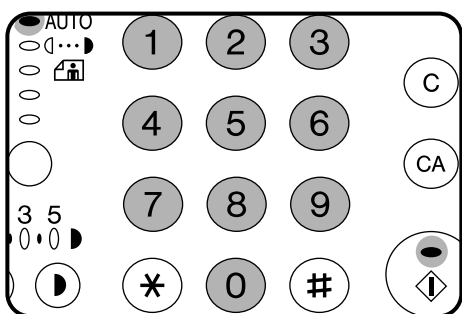
1 Place the originals on the original table with the centre of the two pages aligned with the paper size index (A4 (8 1/2")). Close the platen cover.

- Set the page to be copied first to the right of the paper size index mark.

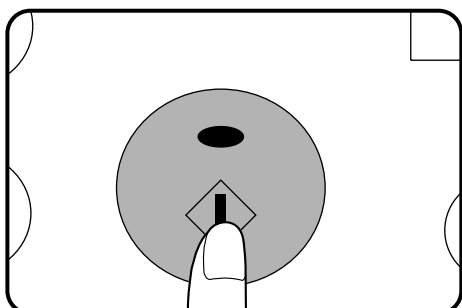


2 Press the DUAL PAGE COPY (AB-AB) key.

- Check to be sure that A4 (8-1/2" x 11") sized copy paper is selected.



3 Set the number of copies.

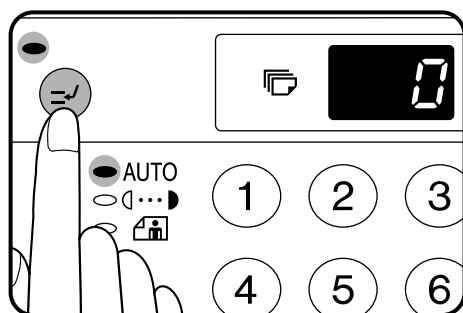


4 Press the START (⏮) key.

INTERRUPTING A COPY RUN

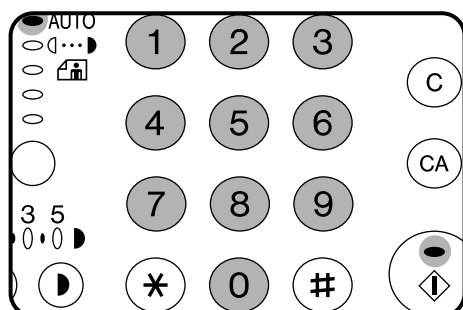
INTERRUPT is used to interrupt a long copy run so that another job can be done.

- Sort or group cannot be selected during interrupt copying. (Sort and group can be performed only if an optional electronic sorting kit and an optional SPF or RSPF are installed.)
- INTERRUPT will not function during two-sided copying.
- Two-sided copying cannot be performed during INTERRUPT copying.



1 Press the INTERRUPT (⏏) key.

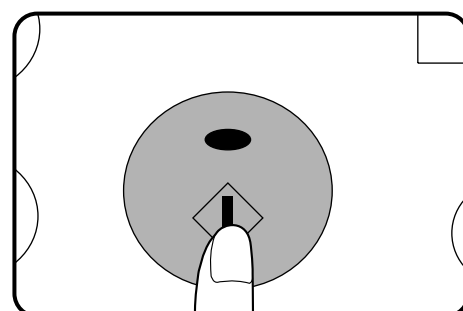
- The copier will return to the initial settings.
- If this copier has been programmed in the auditing mode using user program No. 10, “---” will appear in the copy quantity display. Enter your account number using the numeric keys. The number of copies of the interrupt copying will be accumulated against this account number. See page 13.
- When an optional SPF or RSPF is being used, the copier will stop after completing the copying of the original which has been fed into the SPF or RSPF.



2 When the copier stops, remove the original(s) and set the original(s) for interrupt copying.

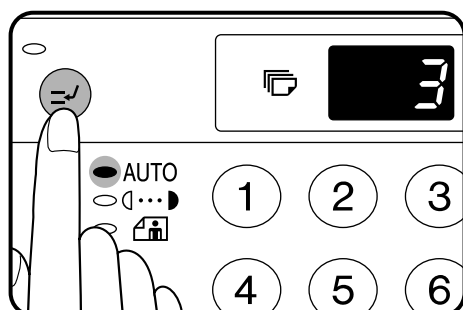
3 Select the desired available copier functions.

4 Set the number of copies.



5 Press the START (▶) key.

- The interrupt copies will be offset from the previous copies when user program No. 19 is enabled. See page 39.



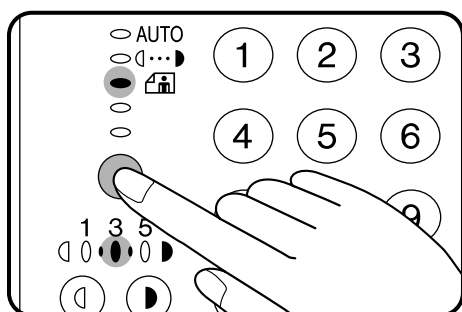
6 When all INTERRUPT copies are finished, press the INTERRUPT (⏏) key again to cancel the INTERRUPT mode, and remove the original used for interrupt copying.

- The previous copy quantity, copy ratio, copy density, and paper size will be automatically restored.

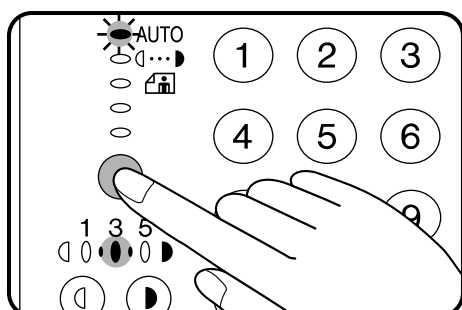
7 Replace the original(s) for the interrupted job and press the START (▶) key to resume copying.

AUTOMATIC EXPOSURE ADJUSTMENT

The automatic exposure level can be adjusted to suit your copying needs. This level is set for copying from the original table and copying from the optional SPF or RSPF respectively. To set the level for the optional SPF or RSPF, place an original in the document feeder tray and make sure that the SPF indicator lights up before proceeding to step 1. To set the level for the original table, ensure that the SPF indicator does not light up.

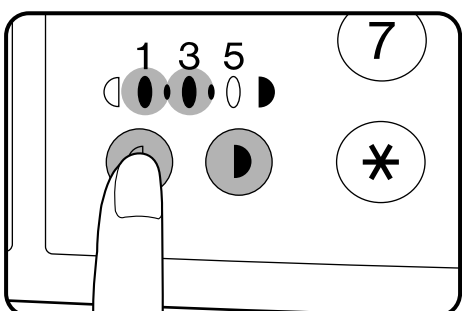


1 Press the **AUTO/MANUAL/PHOTO** (AUTO/☰/📷) key to select the **PHOTO** (📷) mode.

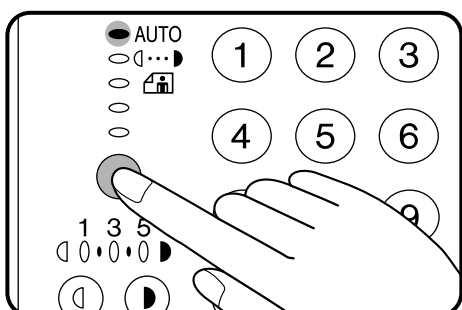


2 Press and hold down the **AUTO/MANUAL/PHOTO** (AUTO/☰/📷) key for approximately 5 seconds.

- The PHOTO (📷) indicator will go out and the AUTO indicator will begin to blink.
- One or two exposure indicators corresponding to the current automatic exposure level will light up. The factory default setting is level “3”.



3 Press the light (☉) or dark (☾) key to lighten or darken the automatic exposure level as desired.



4 Press the **AUTO/MANUAL/PHOTO** (AUTO/☰/📷) key.

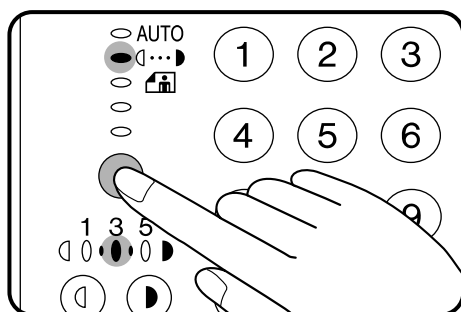
- The AUTO indicator will stop blinking and will light up steadily.
- This automatic exposure level will remain in effect until you change it again by this procedure.

TONER SAVE MODE

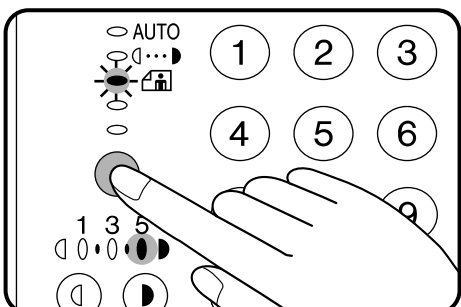
This mode reduces toner consumption by approximately 10% in the automatic and manual exposure modes. Copies will be lighter but still adequate for general use. Selection of this mode does not affect the PHOTO mode. Follow the procedure below for setting the toning level.

MAKING COPIES

Toner save mode

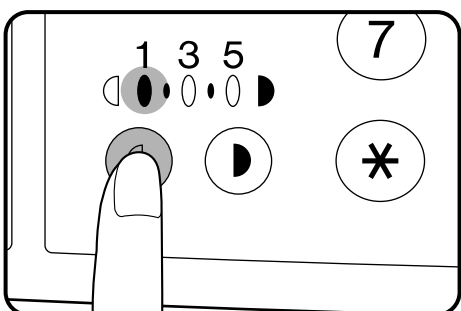


- 1 Press the AUTO/MANUAL/PHOTO (AUTO/□...●/📷) key to select the MANUAL (□...●) mode.**

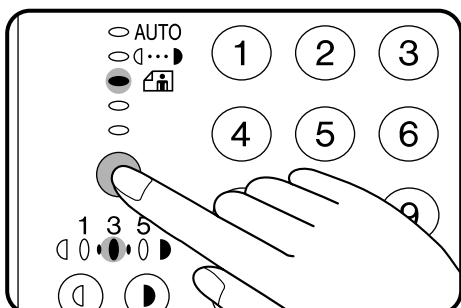


- 2 Press and hold down the AUTO/MANUAL/PHOTO (AUTO/□...●/📷) key for approximately 5 seconds.**

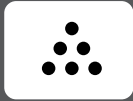
- The MANUAL (□...●) indicator will go out and the PHOTO (📷) indicator will begin to blink.
- The exposure indicator marked "5" will light up, indicating that the standard toner mode is active.



- 3 To enter the toner save mode, press the light (①) key.**
- The exposure indicator marked "1" will light up, indicating that the toner save mode is selected.



- 4 Press the AUTO/MANUAL/PHOTO (AUTO/□...●/📷) key.**
- The PHOTO (📷) indicator will stop blinking and will light up steadily. The toner save mode is now active.
 - To return to the standard mode, repeat the procedure but use the dark (●) key to select exposure level "5" in step 3.



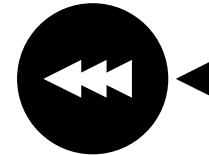
TD CARTRIDGE REPLACEMENT

If the machine detects an insufficient amount of toner available, it will stop copying but will continue to run while feeding toner. During this time the TD cartridge replacement required (⋯) indicator will blink and the START key (Ⓢ) indicator will go out. When sufficient toner has been added, the blinking indicator will go out and the START key indicator will light up indicating that copying can be resumed. However, if toner addition continued for a maximum of two minutes, the TD cartridge replacement required indicator will light up steadily in addition to the START key (Ⓢ) indicator lighting. This indicates that the toner supply is low and that a new TD cartridge will be needed soon. If copying is continued in this state, the copies will gradually become lighter until the copier stops and the TD cartridge replacement required (⋯) indicator begins to blink, indicating that the cartridge must be replaced before copying can be resumed. Replace the TD cartridge by following the procedure below.

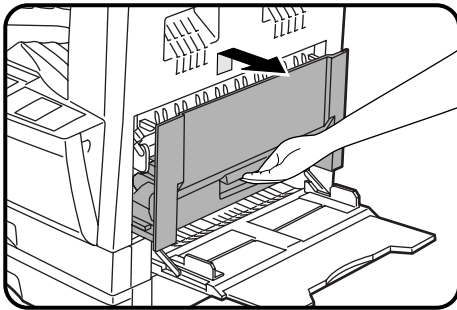
For best copying results, be sure to use only SHARP products.

The package of SHARP toner has the Genuine Supplies label.

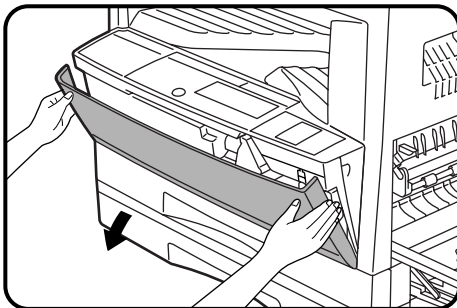
SHARP



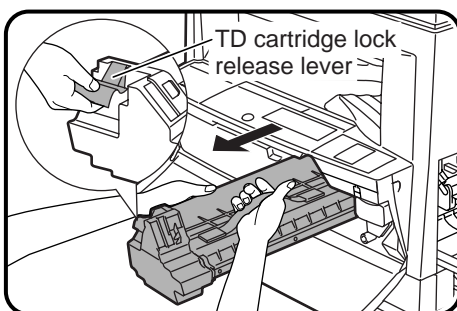
GENUINE SUPPLIES



- 1** Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.

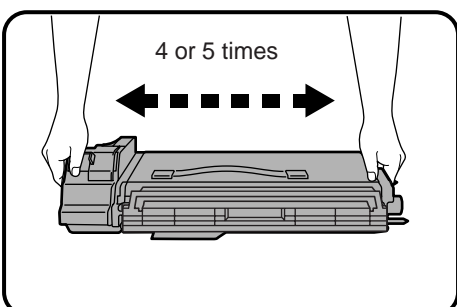


- 2** Push gently on both sides of the front cover to open the cover.

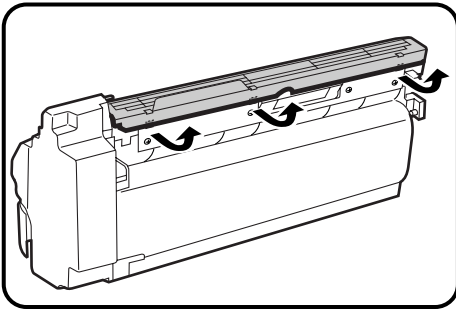


- 3** Lift the TD cartridge lock release lever and pull the cartridge out until the green strap handle can be grasped by the right hand. Lift the cartridge by the handle while supporting it with the left hand at the green label position to remove it.

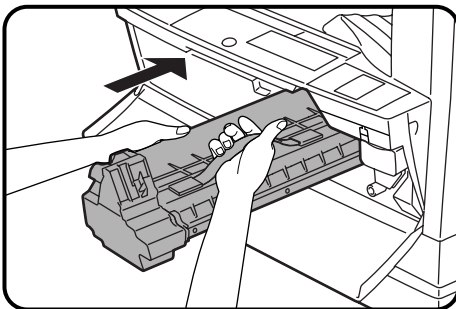
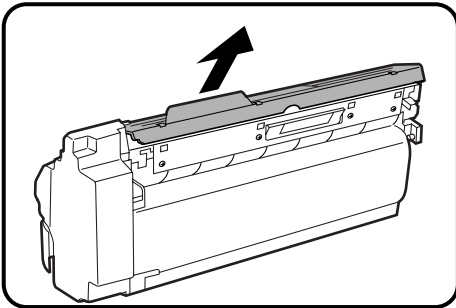
- ~~Dispose of the TD cartridge properly.~~



- 4** Remove the new TD cartridge from the bag. Hold the cartridge on both sides and shake it horizontally four or five times.



5 Remove the protective cover from the TD cartridge by unlatching three cover hooks from the holes on the cartridge and then pulling the cover in the direction indicated by the arrow in the illustration.

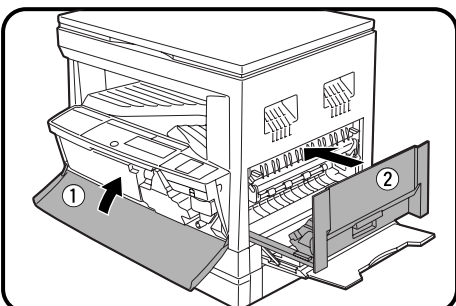


6 Gently insert the TD cartridge along the guides until it locks in place.



Note

If dirt or dust is adhered to the TD cartridge, remove it before installing the cartridge.



7 Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover. The ⚡ indicator will go out.



Caution

When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.



DRUM CARTRIDGE REPLACEMENT

The useful life of the drum cartridge is approximately 30,000 copies. When the internal counter reaches approximately 29,000 copies, the drum replacement required () indicator will light up indicating that replacement of the drum cartridge will be needed soon. When the indicator begins to blink, replace the drum cartridge by following the procedure given below.



Caution

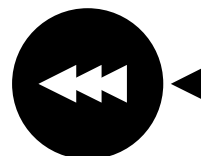
Do not remove the protective cover on the drum portion (black paper) of a new drum cartridge before use. The cover protects the drum against external light.

- For the procedure to find out how many more copies can be made before the 30,000 mark is reached, see page 78 DRUM CARTRIDGE LIFE.

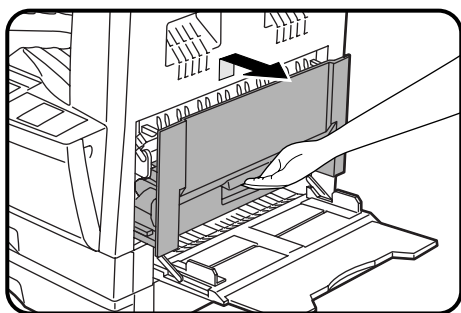
For best copying results, be sure to use only SHARP products.

The package of the SHARP drum cartridge has the Genuine Supplies label.

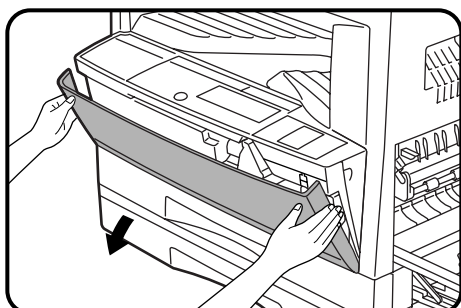
SHARP



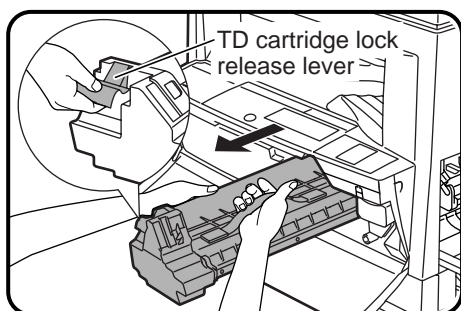
GENUINE SUPPLIES



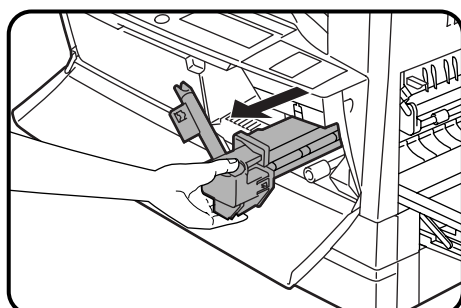
- 1 Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.



- 2 Push gently on both sides of the front cover to open the cover.

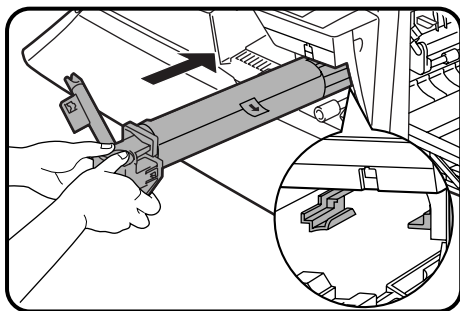


- 3 Lift the TD cartridge lock release lever and pull the cartridge out until the green strap handle can be grasped by the right hand. Lift the cartridge by the handle while supporting it with the left hand at the green label position to remove it.



- 4 Grasp the handle of the drum cartridge and gently pull the cartridge out.

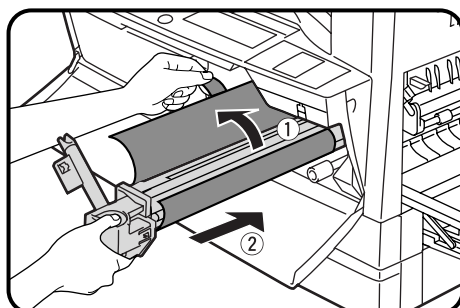
- For disposal of the drum cartridge, see page 78.



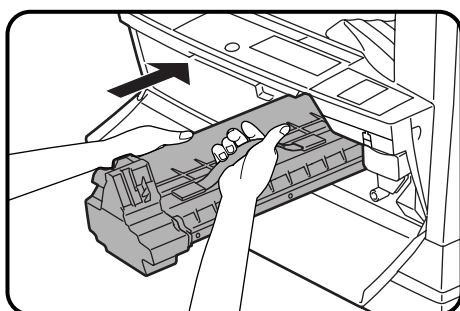
- 5** Remove the new drum cartridge from the protective bag and gently insert the lead end of the drum cartridge along the guides.



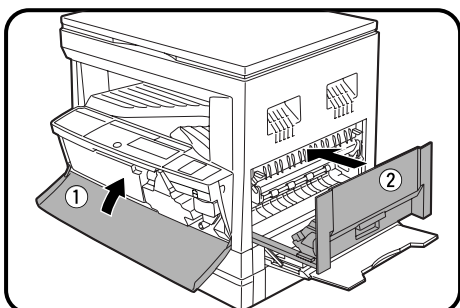
Do not touch the surface of the drum (green portion) of the cartridge. Doing so may cause smudges on the copies.
Caution



- 6** Remove the protective cover from the drum cartridge and then push the cartridge all the way into the copier.



- 7** Gently install the TD cartridge. To install the TD cartridge, see page 29, TD CARTRIDGE REPLACEMENT.



- 8** Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover. The drum replacement required () indicator will go out.



When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.
Caution



MISFEED REMOVAL

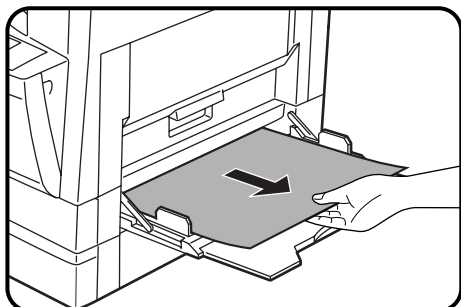
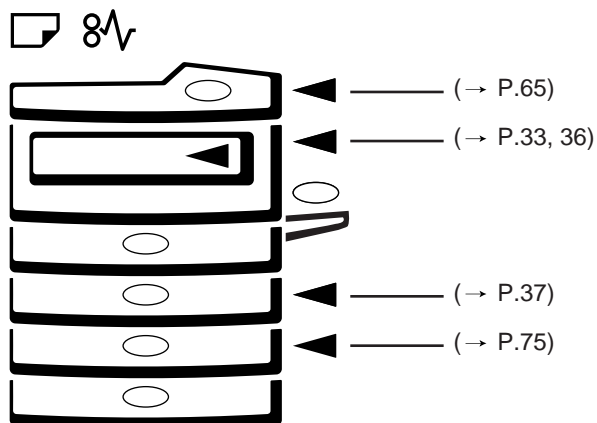
The copier will stop when a misfeed occurs. The misfeed (8V) indicator will blink, and blinking red misfeed location indicators will indicate the approximate misfeed location.

If paper is accidentally torn during removal, be sure to remove all pieces.

Be careful not to damage the photoconductive drum.

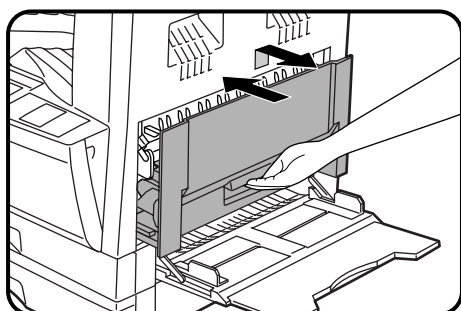
For misfeeds in optional equipment, see their respective sections of the operation manual.

First confirm the misfeed location.



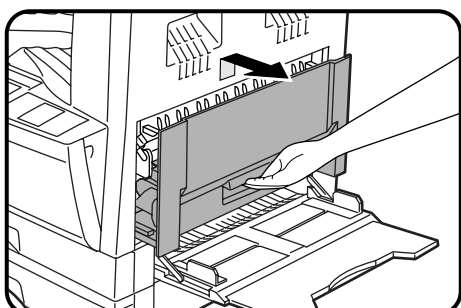
Misfeed in the bypass tray

- 1 Gently pull the misfed paper out.



- 2 Lift slightly on the side cover and slide the cover out until it stops. Close the side cover by pressing the handle on the cover.

- The misfeed (8V) indicator will go out.



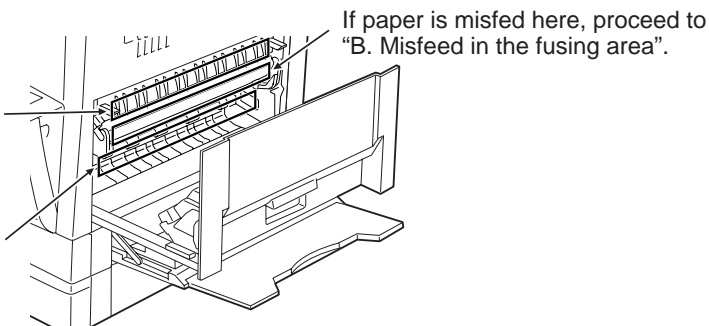
Misfeed in the copier

- 1 Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.

2 Check the misfeed location. Remove the misfed paper following the instructions for each location in the illustration below.

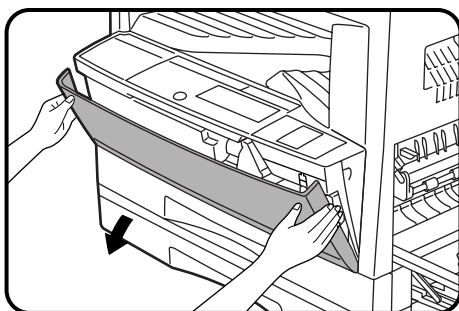
If the misfed paper is seen from this side, proceed to "C. Misfeed in the transport area".

If paper is misfed here, proceed to "A. Misfeed in the paper feed area".

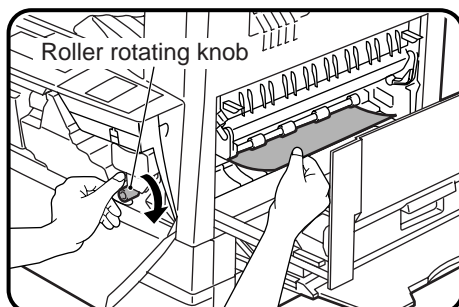


A. Misfeed in the paper feed area

1 Push gently on both sides of the front cover to open the cover.



2 Carefully remove the misfed paper. Turn the roller rotating knob in the direction of the arrow to assist in removing it.



The fusing unit is hot. Take care in removing paper.

Warning

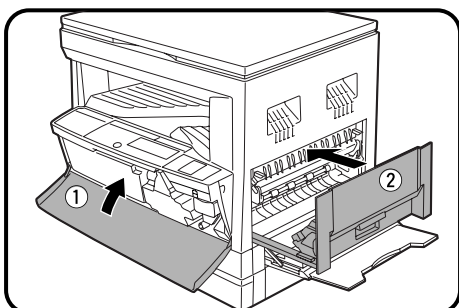


Do not touch the surface of the drum (green portion) of the drum cartridge when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.

Caution

3 Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover.

- The misfeed (⌘) indicator will go out.

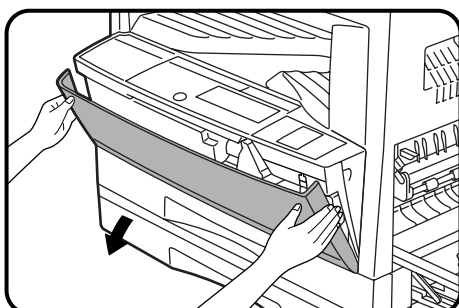


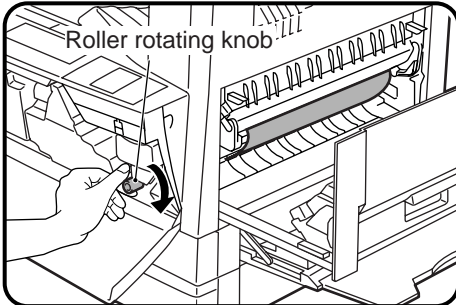
When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.

Caution

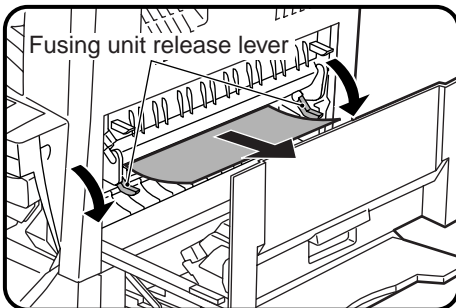
B. Misfeed in the fusing area

1 Push gently on both sides of the front cover to open the cover.





2 Turn the roller rotating knob in the direction of the arrow.



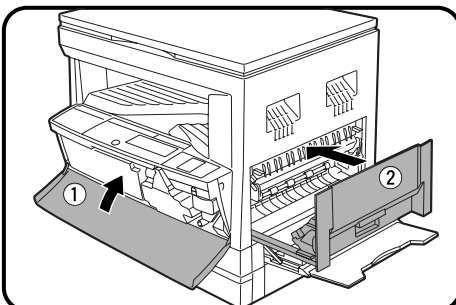
3 Carefully remove the misfed paper. Lower the fusing unit release levers to allow easier removal. Return the release levers to their operating positions.



The fusing unit is hot. Take care in removing paper.



- Do not touch the surface of the drum (green portion) of the drum cartridge when removing the misfed paper. Doing so may damage the drum and cause smudges on copies.
- Be careful about unfixed toner on the misfed paper not to soil your hands or clothes.

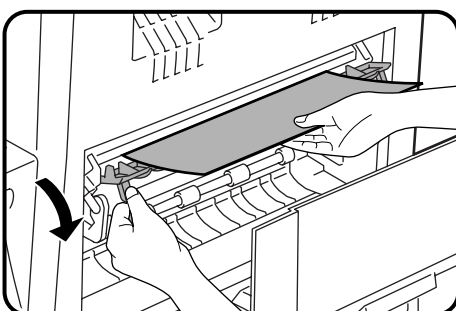


4 Close the front cover by pushing both sides with your hands and then close the side cover by pressing the handle on the cover.

- The misfeed (8V) indicator will go out.



When closing the covers, be sure to close the front cover securely and then close the side cover. If the covers are closed in the wrong order, the covers may be damaged.

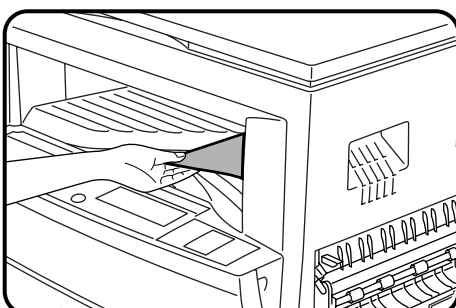


C. Misfeed in the transport area

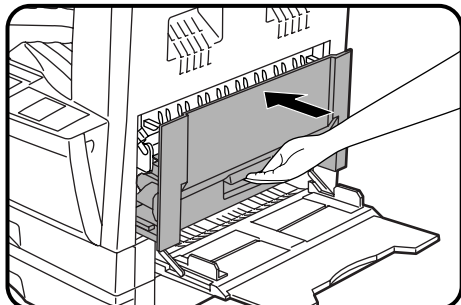
1 Open the paper guide by pressing down the projection on either side of the guide and remove the misfed paper.



The fusing unit is hot. Take care in removing paper.

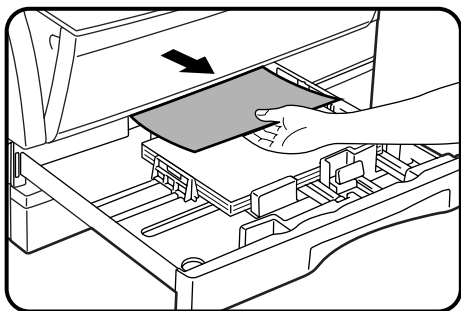


2 If the misfed paper cannot be removed by the previous step but is visible in the paper output area, remove the paper by pulling it into the paper output area.



3 Close the side cover by pressing the handle on the cover.

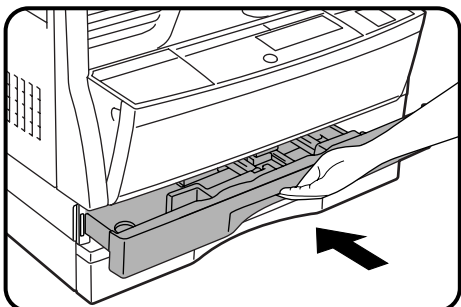
- The misfeed (8V) indicator will go out.



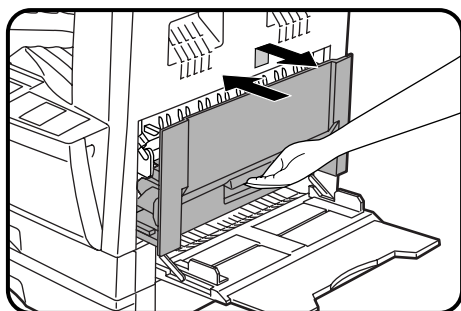
Misfeed in the upper paper tray

Before opening the upper paper tray, be sure to open the bypass tray, lift slightly on the side cover and slide the cover out until it stops, and then perform steps 1 to 3 described in the “A. Misfeed in the paper feed area” section.

1 Gently lift and pull out the upper paper tray and remove the misfed paper.



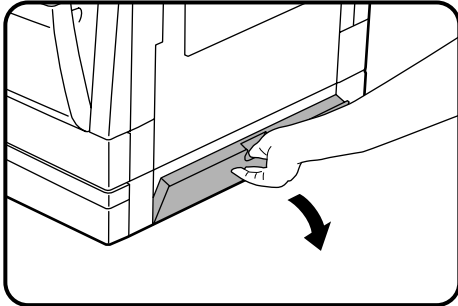
2 Close the paper tray.



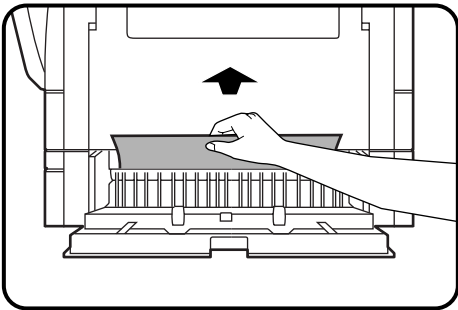
3 Lift slightly on the side cover and slide the cover out until it stops. Close the side cover by pressing the handle on the cover.

- The misfeed (8V) indicator will go out.

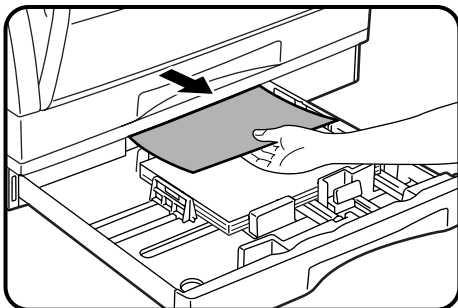
Misfeed in the lower paper tray



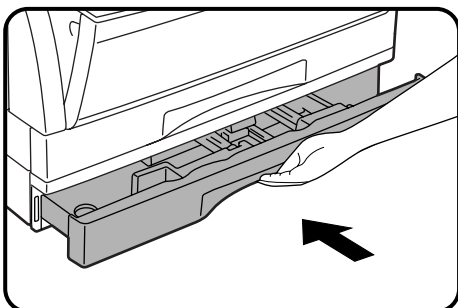
- 1** Grasp the handle of the lower side cover and gently open the cover.



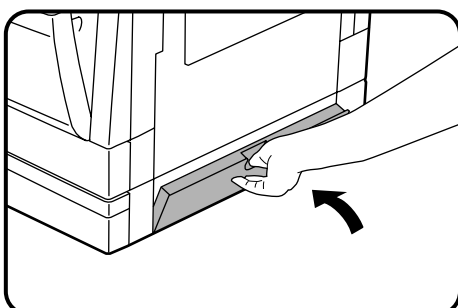
- 2** Remove the misfed paper.
 - Be careful not to tear the misfed paper during removal.



- 3** If the misfed paper is not seen in step 2, gently lift and pull out the lower paper tray and remove the misfed paper.
 - Be careful not to tear the misfed paper during removal.




- 4** Close the paper tray.



- 5** Close the lower side cover.
 - The misfeed (8V) indicator will go out.



MAINTENANCE REQUIRED

When the  indicator lights up, service by an authorised SHARP service technician is required. Contact your service centre as soon as possible.

USER PROGRAMS

The user programs allow the parameters of certain functions to be set, changed, or cancelled as desired.

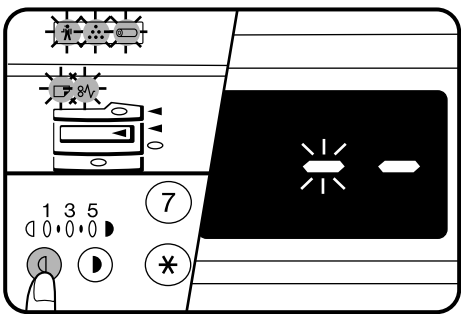
List of user programs

This copier has the following user programs.

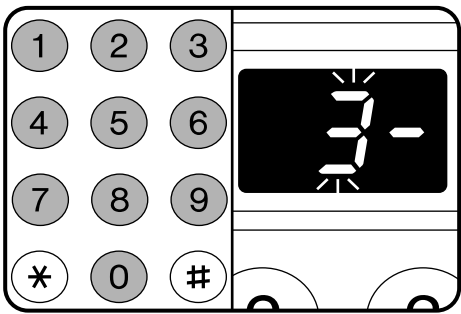
Program No.	Program name	Description
1	Auto clear time	Sets the auto clear time. The copier returns to the initial settings when the auto clear time elapses after the last copy is made.
2	Preheat mode	Sets the time that elapses before the copier enters the preheat mode after any operation is made. See page 46.
3	Auto power shut-off timer	Sets the time that elapses before the copier enters the auto power shut-off mode after any operation is made. See page 46.
4	Stream feeding mode*	Enables or disables the stream feeding mode when an optional SPF or RSPF is installed. See page 60.
5	Auto power shut-off setting	Enables or disables the auto power shut-off mode. See page 46.
6	Border line for 2 in 1 or 4 in 1*	Enables or disables the border line which is printed in 2 in 1 or 4 in 1 copying when an optional electronic sorting kit and an optional SPF or RSPF are installed. See page 69.
7	Rotation copy*	Enables or disables rotation of original images. See page 66.
8	Auto paper select mode	Enables or disables the auto paper selection. See page 14.
9	Auto tray switching	Enables or disables the automatic tray switching which occurs when paper in a tray runs out. (This switching cannot switch to the bypass tray.)
10	Auditing mode	Enables or disables the auditing mode, which controls access to the copier. See page 13.
11	Account number entry	Registers accounts for auditing mode.
12	Account number change	Changes account numbers for auditing mode.
13	Account number deletion	Deletes accounts for auditing mode.
14	Number of copies per account	Displays the total number of copies made against account numbers.
15	Resetting account	Resets all audit accounts or resets any desired individual account.
16	Erase width adjustment*	Sets the amount of the edge erase and centre erase areas. See page 71.
17	Layout in 2 in 1 copy*	Selects a pattern for 2 in 1 copying. See page 69.
18	Layout in 4 in 1 copy*	Selects a pattern for 4 in 1 copying. See page 69.
19	Offset of paper output tray	Enables or disables the offset function of the paper output tray. The offset function can be specified respectively for the upper and lower areas separated by an optional job separator tray. See page 67.
20	Image rotation in duplex copying	Enables or disables image rotation (180°) of the front side in one-sided to two-sided copying or two-sided to one-sided copying. See page 64.
22	Location of the margin*	Selects the location of the expanded margin. See page 73.

* These programs do not affect the copier functions unless certain optional equipment is installed.

Setting the user programs



1 Press and hold the light (1) key for more than 5 seconds until all the alarm indicators (, , , , and) blink and “-” appears in the copy quantity display.



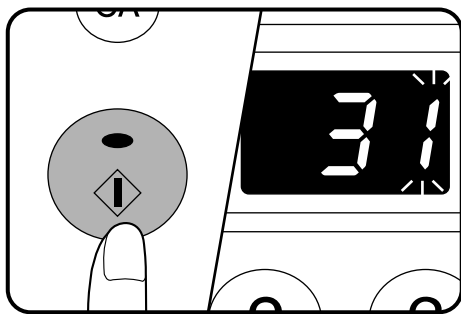
2 Enter a program number using the numeric keys.

- The selected program number will blink in the copy quantity display.
- If a mistake is made in steps 2 to 4, press the CLEAR (C) key. The copier will return to step 2.
- The program numbers are shown in the table below.

For example, to change the setting of the auto power shut-off timer, press key 3.

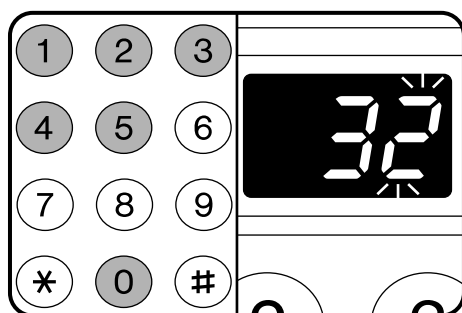
Program name	Program No.
Auto clear time	1
Preheat mode	2
Auto power shut-off timer	3
Stream feeding mode	4
Auto power shut-off setting	5
Border line for 2 in 1 or 4 in 1	6
Rotation copy	7
Auto paper select mode	8
Auto tray switching	9
Auditing mode	10
Account number entry	11
Account number change	12
Account number deletion	13
Number of copies per account	14
Resetting account	15
Erase width adjustment	16
Layout in 2 in 1 copy	17
Layout in 4 in 1 copy	18
Offset of paper output tray	19
Image rotation in duplex copying	20
Location of the margin	22

For operation of these programs after step 3, see page 42.



3 Press the START (2) key.

- For programs 1 to 9 and 16 to 22, the entered program number will be steadily lit on the left side of the copy quantity display and the currently selected parameter number for the program will blink on the right side.
- For programs 10 to 15 (programs for auditing accounts), the display varies with the program number. See page 42 for setting programs 10 to 15.



4 Select the desired parameter using the numeric keys.

- The entered parameter number will blink on the right side of the copy quantity display.
- The parameters are shown in the table below.

For example, to change the setting of the auto power shut-off timer to 60 min., press key 2.

Program name	Parameters
Auto clear time	0 ⇨ OFF 1 ⇨ 30 sec. * 2 ⇨ 60 sec. 3 ⇨ 90 sec. 4 ⇨ 120 sec. 5 ⇨ 10 sec.
Preheat mode**	0 ⇨ OFF ** 1 ⇨ 30 sec. 2 ⇨ 60 sec. * 3 ⇨ 90 sec. 4 ⇨ 120 sec.
Auto power shut-off timer	* 1 ⇨ 30 min. 2 ⇨ 60 min. 3 ⇨ 90 min. 4 ⇨ 120 min. 5 ⇨ 240 min.
Stream feeding mode	* 0 ⇨ OFF 1 ⇨ ON
Auto power shut-off setting	0 ⇨ OFF * 1 ⇨ ON
Border line for 2 in 1 or 4 in 1	* 0 ⇨ OFF 1 ⇨ ON
Rotation copy	0 ⇨ OFF * 1 ⇨ ON
Auto paper select mode	0 ⇨ OFF * 1 ⇨ ON
Auto tray switching	0 ⇨ OFF * 1 ⇨ ON
Erase width adjustment	0 ⇨ 0 mm 1 ⇨ 5 mm * 2 ⇨ 10 mm 3 ⇨ 15 mm 4 ⇨ 20 mm (0 ⇨ 0" 1 ⇨ 1/4" * 2 ⇨ 1/2" 3 ⇨ 3/4" 4 ⇨ 1")
Layout in 2 in 1 copy	* 1 ⇨ Pattern 1 2 ⇨ Pattern 2
Layout in 4 in 1 copy	* 1 ⇨ Pattern 1 2 ⇨ Pattern 2 3 ⇨ Pattern 3 4 ⇨ Pattern 4
Offset of paper output tray	0 ⇨ Upper OFF, lower OFF * 1 ⇨ Upper ON, lower ON 2 ⇨ Upper ON, lower OFF 3 ⇨ Upper OFF, lower ON
Image rotation in duplex copying	* 0 ⇨ OFF 1 ⇨ ON
Location of the margin	* 1 ⇨ Left 2 ⇨ Top

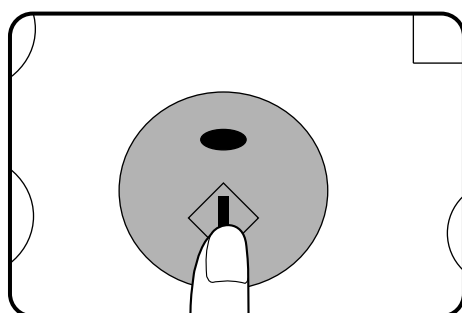
Factory default settings are indicated with an asterisk (*). For layout in 2 in 1 copy and 4 in 1 copy, see page 69.

** In European countries, the default setting of the preheat mode is 1 (⇨ 30 sec.). For other programs, factory default settings in these countries are same to those shown above with an asterisk (*).



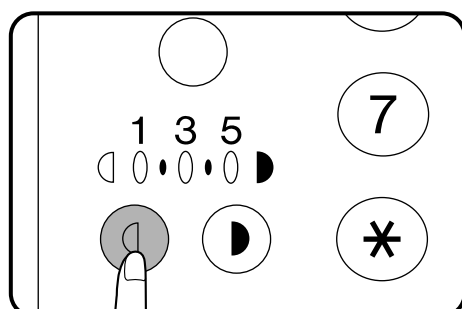
Note

If you select "0" (OFF) in a program, the corresponding function will be disabled.



5 Press the START (→) key.

- The right-hand number in the copy quantity display will be steadily lit and the entered value will be stored.



6 To continue with other user programs, press the (C) key and then repeat steps 2 to 5. To exit the user program mode, press the light (Ⓛ) key.

- All the alarm indicators will go out.

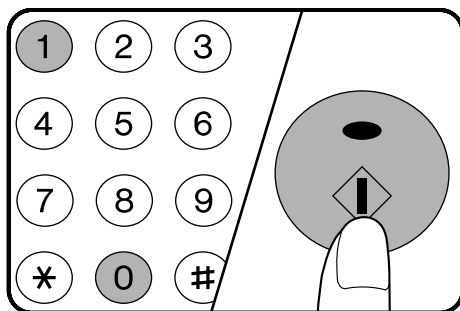
Settings for auditing accounts

Setting of user programs No. 10 to 15 varies with the program number. For settings of all programs, first follow steps 1 to 3 in “Setting the user programs” on page 39 to select a program. (1. Press the light (①) key for more than 5 seconds. 2. Enter a program number (10 to 15) using the numeric keys. 3. Press the START (Ⓢ) key.) Then follow the appropriate instructions for the program.

Program No. 10: Auditing mode

If the auditing mode is enabled, copying is limited to operators with an assigned 3-digit account number. A maximum of 20, 3-digit account numbers can be assigned. Use program No. 11 to register account numbers.

When program No. 10 is entered, the current setting (0: OFF, 1: ON) will blink on the right side of the copy quantity display.

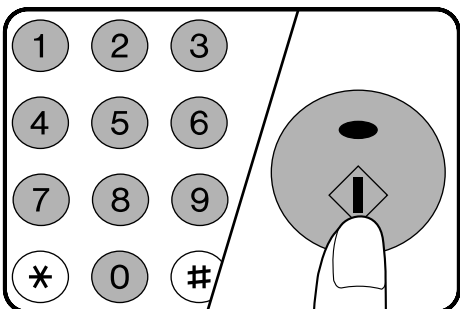


1. **Select the desired setting using the numeric keys.**
 0: OFF
 1: ON
2. **Press the START (Ⓢ) key.**
 - The setting will be stored.
3. **To continue with other user programs, press the (C) key and enter another program number. To exit the user program mode, press the light (①) key.**

Program No. 11: Account number entry

Program No. 11 is used to register accounts. When program No. 11 is entered, “---” will blink in the copy quantity display.

- If the number of accounts has reached the upper limit (20), “11E” will appear in the copy quantity display. Press the (C) key. The copier will return to step 2 on page 40.

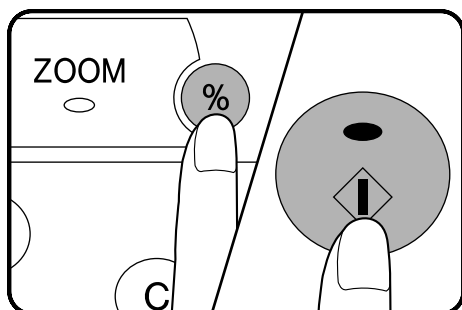


1. **Enter a 3-digit account number using the numeric keys.**
 - Any 3-digit number except “000” can be registered as an account number.
2. **Press the START (Ⓢ) key.**
 - If a number that is already registered or “000” is entered, the number will blink in the copy quantity display.
3. **Repeat steps 1 and 2 for other account numbers.**
4. **To continue with other user programs, press the (C) key and enter another program number. To exit the user program mode, press the light (①) key.**

Program No. 12: Account number change

Program No. 12 is used to change account numbers. When program No. 12 is entered, an account number will appear in the copy quantity display.

- If no account number has been registered, “12E” will appear in the copy quantity display. Press the (C) key. The copier will return to step 2 on page 40.

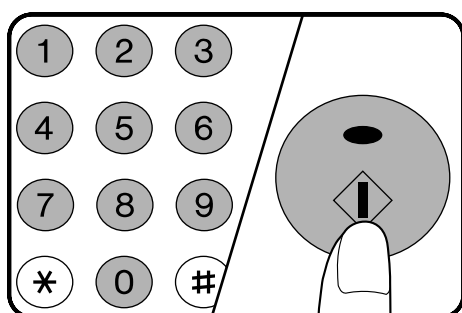


1. Use the copy ratio display (%) key to select the account number to be changed.

- Use the (%) key to advance through the account numbers.

2. Press the START (⏏) key.

- The account number will be erased and “---” will blink in the copy quantity display.



3. Enter a new account number using the numeric keys.

4. Press the START (⏏) key.

- If a number that is already registered or “000” is entered, the number will blink in the copy quantity display.

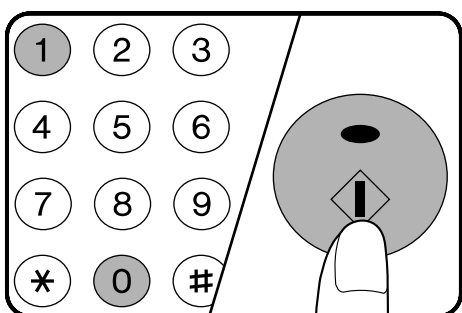
5. Repeat steps 1 to 4 for other account numbers.

6. To continue with other user programs, press the (C) key and enter another program number. To exit the user program mode, press the light (⏏) key.

Program No. 13: Account number deletion

Program No. 13 is used to delete accounts. When program No. 13 is entered, “0” will blink on the right side of the copy quantity display.

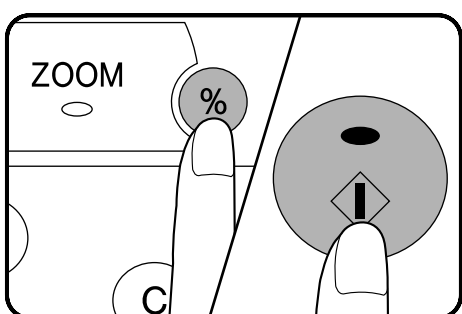
- If no account number has been registered, “13E” will appear in the copy quantity display. Press the (C) key. The copier will return to step 2 on page 40.



1. To delete an individual account, press the 0 key. To delete all accounts, press key 1.

2. Press the START (⏏) key.

- If you have pressed the 0 key in step 1, an account number will appear in the copy quantity display. Proceed to step 3.
- If you have pressed key 1, all account numbers will be deleted. Proceed to step 5.



3. Use the copy ratio display (%) key to select the account number to be deleted.

- Use the (%) key to advance through the account numbers.

4. Press the START (⏏) key.

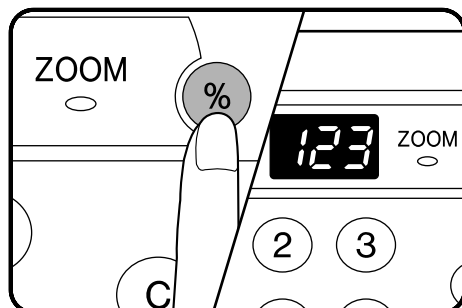
- The specified account will be deleted.

5. To continue with other user programs, enter another program number. To exit the user program mode, press the light (⏏) key.

Program No. 14: Number of copies per account

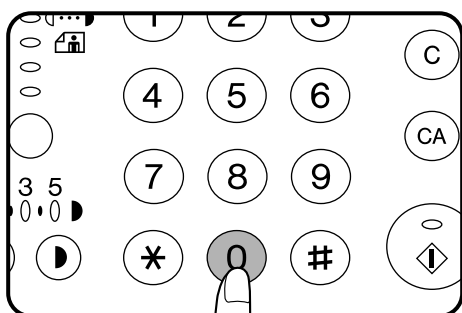
Program No. 14 is used to display the total number of copies made against each account number. When program No. 14 is entered, an account number will appear in the copy quantity display.

- If no account number has been registered, “14E” will appear in the copy quantity display. Press the C key. The copier will return to step 2 on page 40.



1. Use the copy ratio display (\%) key to select the account number.

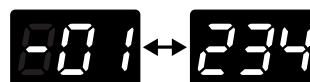
- Use the \% key to advance through the account numbers.



2. Press and hold down the 0 key.

- The number of copies made against the specified account number will be displayed. The two higher digits and the three lower digits will appear alternately while the 0 key is pressed.

Example: 1,234 copies



- The upper limit for the number of copies is 49,999. If the number of copies made reaches 50,000, the number will be reset to 0 and counting will start again from 0.

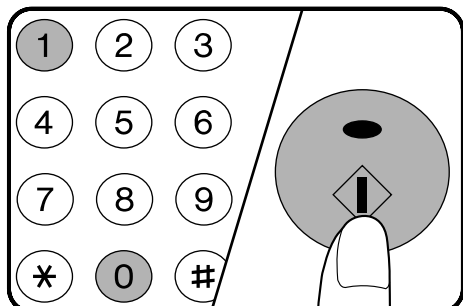
3. Repeat steps 1 and 2 for other account numbers.

4. To continue with other user programs, press the C key and select another program number. To exit the user program mode, press the light ($\text{\textcircled{1}}$) key.

Program No. 15: Resetting account

Program No. 15 is used to reset all accounts or to reset any desired individual account. When program No. 15 is entered, “0” will blink on the right side of the copy quantity display.

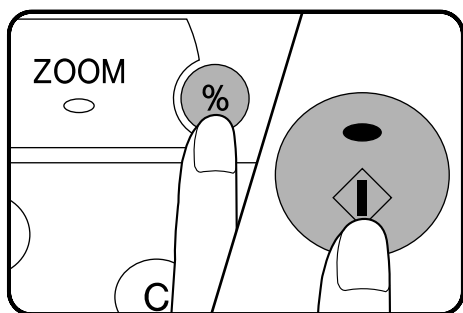
- If no account number has been registered, “15E” will appear in the copy quantity display. Press the (C) key. The copier will return to step 2 on page 40.



1. To reset an individual account, press the 0 key.
To reset all accounts, press key 1.

2. Press the START (⬢) key.

- If you have pressed the 0 key in step 1, an account number will appear in the copy quantity display. Proceed to step 3.
- If you have pressed key 1, the number of copies against all account numbers will be reset. Proceed to step 5.



3. Use the copy ratio display (%) key to select the account number to be reset.

- Use the (%) key to advance through the account numbers.

4. Press the START (⬢) key.

- The number of copies against the specified account number will be reset.

5. To continue with other user programs, enter another program number. To exit the user program mode, press the light (⬢) key.

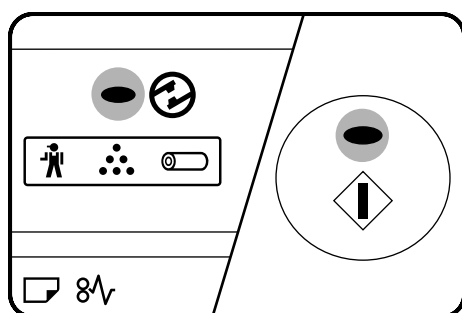
POWER SAVE MODES

The copier has two power save modes to reduce overall power consumption thereby reducing the cost of operation. In addition, these modes conserve natural resources and help reduce environmental pollution. The two power save modes are preheat mode and auto power shut-off mode.

- User programs

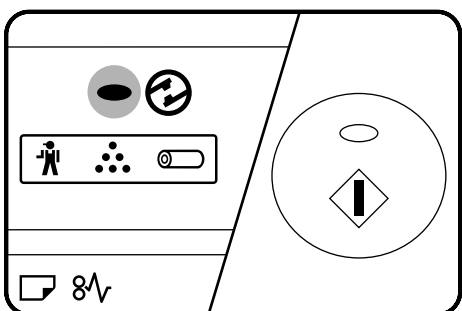
The preheat activation time and the auto power shut-off time have been preset at the factory to 90 sec.* for preheat mode and 30 min. for auto power shut-off mode. These times can be changed using user programs. It is suggested that you set appropriate times according to the actual usage of the copier. See page 39.

* In European countries, the factory default setting is 30 sec.



Preheat mode

When the copier enters the preheat mode, the POWER SAVE (⚡) indicator will light up and other indicators will remain on or off as before. In this condition, the fuser in the copier is maintained at a lower heat level, thereby saving power. The preheat level is, however, high enough to allow the copier to come to a ready condition or begin copying within 10 seconds after any key input or copier operation such as paper tray operation is performed.



Auto power shut-off mode

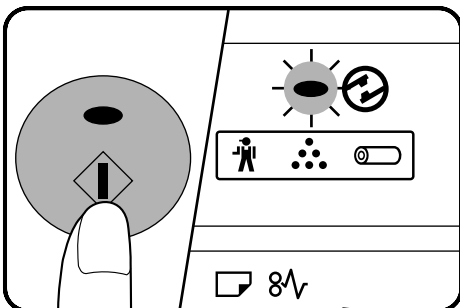
If the auto power shut-off mode is enabled, the copier will automatically turn off the power once a programmed length of time has elapsed without any copier operation after the last copy of a run is made or the power is first turned on. The power switch will automatically be turned to the “OFF” position. To turn the power back on, simply turn the power switch to the “ON” position.

- If an optional printer expansion kit or facsimile expansion kit is installed and this mode is enabled, the POWER SAVE (⚡) indicator will light up and all other indicators will go out. The auto power shut-off mode saves more power but requires a longer time to warm up before copying can begin.

Setting the power save modes

The time that elapses before the copier enters a power save mode after any operation is made can be set manually. This time is set with user program No. 2 for the preheat mode and user program No. 3 for the auto power shut-off mode. For these settings, see page 40.

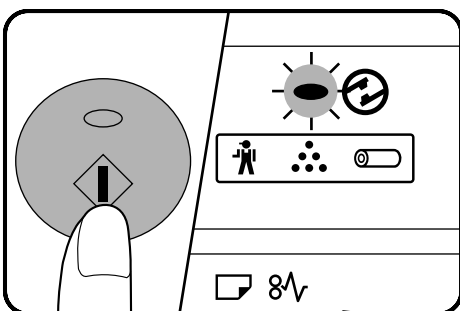
- The copier will enter the preheat mode first and then the auto power shut-off mode after a preset time has elapsed when no copier operation has been made.
- If conflicting settings are made with user programs No. 3 and No.5, the last program set will have priority.



Copying from the preheat mode

Make desired copier selections and press the START (⬆) key using the normal copying procedure.

- When any key input is made or any other copier operation is made, the POWER SAVE (⚡) indicator will start to blink.
- When the START (⬆) key is pressed, the START (⬆) key indicator will go out and copying will start within 10 seconds. The POWER SAVE (⚡) indicator will go out when copying starts.



Copying from the auto power shut-off mode

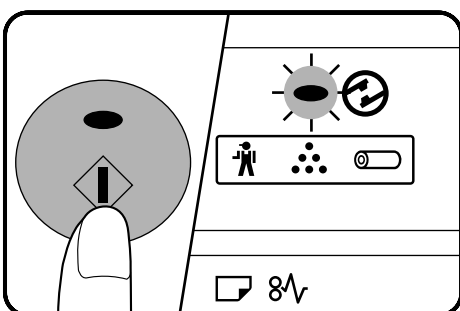
- Only available when an optional printer expansion kit or facsimile expansion kit is installed.

1 Press the START (⬆) key.

- The copier will exit the auto power shut-off mode and the POWER SAVE (⚡) indicator will start to blink.

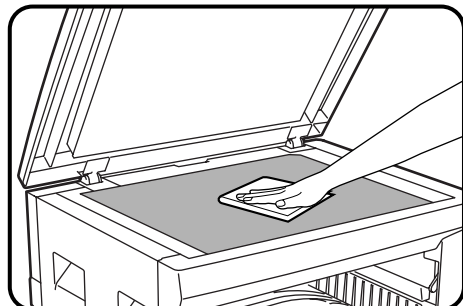
2 Make desired copier selections and press the START (⬆) key using the normal copying procedure.

- It will take approximately 35 seconds for the copier to start copying. However, you can make desired settings and press the START (⬆) key during warm-up. Copying will start after warm-up is finished.



USER MAINTENANCE

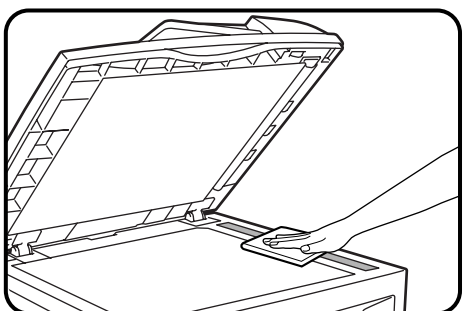
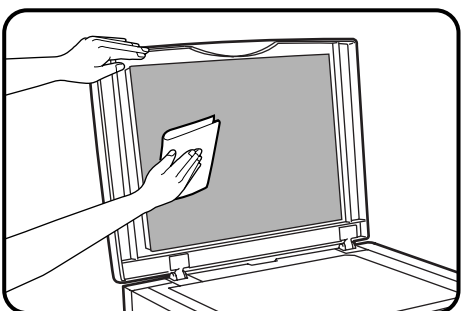
Proper care is essential for clean, sharp copies. Please take a few minutes to regularly clean your copier.



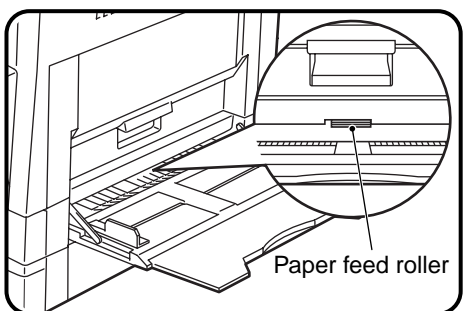
Original table and platen cover

Stains or dirt on the original table or platen cover will also be copied. Wipe the original table and platen cover with a soft, clean cloth.

- If necessary, dampen the cloth with water. Do not use thinner, benzene, or similar volatile cleaning agents.



- If an optional SPF or RSPF is installed, wipe the scanning window on the original table.



Bypass tray paper feed roller







If misfeeds occur frequently when feeding postcards, envelopes, thick paper, etc. through the bypass tray, wipe the blue paper feed roller at the feed slot of the bypass tray with a soft, clean cloth dampened with alcohol or water.

Transfer charger

If copies start becoming streaky or blotchy, the transfer charger may be dirty. Clean the charger. The cleaning method is described on page 77, TRANSFER CHARGER CLEANING.

COPIER TROUBLE?

Problem	Solution	
Copier does not operate.	● Copier plugged in?	Plug the copier into a grounded outlet. See page 8.
	● Power switch ON?	Turn the power switch ON. See page 14.
Copies are too dark or too light.	● Copy density properly adjusted?	See pages 14 and 27.
Blank copies	● Is the original placed face down?	Place the original face down on the original table.
Copies smear if rubbed.	● Paper too heavy?	Use copy paper within the specified range. See page 52.
	● Paper damp?	Replace with dry copy paper. Be sure to store copy paper in a dry location. See page 53.
Striped copies	● Is transfer charger clean?	Clean the transfer charger. See page 77.
Paper misfeeds frequently.	● Non-standard paper used?	Use standard paper. If using special paper, feed the paper through the bypass tray. See pages 18 and 52.
	● Paper properly installed?	Make sure the paper is properly installed. See pages 10 and 18.
	● Pieces of paper inside copier?	Remove all pieces of misfed paper. See page 33.
	● Paper curled or damp?	Store copy paper flat in the wrapper in a dry location. See page 53.
Original size not selected automatically.	● Has the platen cover been completely opened when the original is placed on the original table?	Open the platen cover completely and then place the original on the original table. Close the platen cover.
	● Does the original include any large black solid areas?	If the original includes any large black solid areas, the original size may not be detected. Use the ORIGINAL SIZE ENTER (🖨️ ENTER) key to select the paper size which is set.

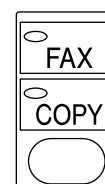
Problem	Solution	
Copies are smudged or dirty.	<ul style="list-style-type: none"> Original table or platen cover dirty? 	Clean regularly. See page 48.
	<ul style="list-style-type: none"> Original smudged or blotchy? 	Use a clean original.
	<ul style="list-style-type: none"> Is the  indicator on? 	Maintenance is required. Contact your SHARP service centre as soon as possible.
Paper size for a paper tray cannot be set.	<ul style="list-style-type: none"> Is the COPY indicator off? 	Use the COPY/FAX key to select the COPY mode. See Note below.
	<ul style="list-style-type: none"> Is copying, printing or facsimile printing being performed? 	Set the paper size after copying, printing or facsimile printing is complete.
Power is on but copying is not possible.	<ul style="list-style-type: none"> Is the POWER SAVE () indicator blinking? 	Wait until warm-up is complete. Warm-up time is approximately 35 seconds.
	<ul style="list-style-type: none"> Is only the POWER SAVE () indicator on? (when an optional printer or facsimile expansion kit is installed) 	The copier is in the auto power shut-off mode. Press the START () key. See page 46, POWER SAVE MODES.
	<ul style="list-style-type: none"> Is the COPY indicator off? 	Use the COPY/FAX key to select the COPY mode. See Note below.
	<ul style="list-style-type: none"> Is  steadily lit in the copy quantity display? 	The copier is in the auditing mode. Enter your account number using the numeric keys. See page 13.
	<ul style="list-style-type: none"> Is the  indicator on? 	Copy paper is needed. See page 10, LOADING COPY PAPER.






Note

COPY/FAX key

The COPY/FAX key is used to switch between the FAX and COPY modes. For details, see the MULTI ACCESS manual.



Problem	Solution	
Power is on but copying is not possible.	<ul style="list-style-type: none"> Is the output tray full (◀) indicator on and any misfeed location (◀) indicator blinking while the misfeed (8V) indicator is not blinking? 	Remove the paper on or under the job separator tray so that it can move to the proper position, and then open and close the side cover.
	<ul style="list-style-type: none"> Is two-sided printing being performed? 	Wait until the printing job will finish.
	<ul style="list-style-type: none"> Is  blinking in the copy quantity display? 	The TD cartridge is not installed. Install the TD cartridge.
	<ul style="list-style-type: none"> Is  steadily lit in the copy quantity display? 	Side cover(s) is open. Close the front and side covers securely.
	<ul style="list-style-type: none"> Is the  indicator blinking? 	The TD cartridge must be replaced. See page 29, TD CARTRIDGE REPLACEMENT.
	<ul style="list-style-type: none"> Is the 8V indicator blinking? 	A misfeed has occurred. See page 33, MISFEED REMOVAL.
Lighting fixture flickers.	<ul style="list-style-type: none"> Is the same power outlet used for the lighting fixture and the copier? 	Connect the copier to a power outlet which is not used for other electric appliances.



Caution

Be sure to use only genuine SHARP parts and supplies.

Please contact your SHARP service centre immediately if a problem persists after checking the above.

Self-diagnostic function

An automatic self-diagnostic function is built into the copier. Should the copier malfunction, the self-diagnostic function will locate the problem and stop the copier to prevent damage. An alphanumeric code will appear in the copy quantity display.



Example

Should the copier completely stop and a letter and a number appear alternately, contact your SHARP service centre immediately.

SUPPLIES

Types and sizes of copy paper

	Size	Weight	Capacity (80 g/m ² (21 lb.) paper)	Special paper
Paper trays	A5* to A3 (5-1/2" x 8-1/2"* to 11" x 17")	56 to 80 g/m ² (15 lbs. to 21 lbs.)	250 sheets	
Bypass tray	Ordinary paper: A6 to A3 (5-1/2" x 8-1/2" to 11" x 17") Envelopes: International DL (110 x 220 mm) International C5 (162 x 229 mm) Commercial 10 (4-1/8" x 9-1/2")	56 to 128 g/m ² (15 lbs. to 34 lbs.)* (Ordinary paper)	100 sheets	Transparency film, labels, envelopes***

* A5 (5-1/2" x 8-1/2") copy paper can be used in the uppermost paper tray but cannot be used in other trays (including trays in optional paper feed units).

** For paper weighing from 105 to 128 g/m² (28 to 34 lbs.), A4 (8-1/2" x 11") is the maximum size that can be fed through the bypass tray.

*** Do not use envelopes that have metal clasps, plastic snappers, string closures, windows, linings, self-adhesive patches or synthetic materials. These will cause physical damage to the copier.

- For best results, use only paper recommended by SHARP.
- Special papers except envelopes must be fed one sheet at a time through the bypass tray. Up to 10 envelopes can be set at one time.

Genuine supplies statement

Standard supplies for this copier that are to be replaced by the user are copy paper, TD cartridge, and drum cartridge.

For best copying results, be sure to use only SHARP products.
Only genuine SHARP consumables carry the Genuine Supplies label.



Proper storage

- 1. Store the supplies in a location that is:**
 - clean and dry,
 - at a stable temperature,
 - not exposed to direct sunlight.
- 2. Store copy paper in the wrapper and lying flat.**
 - Paper stored out of the wrapper or in packages standing on end may curl or get damp, resulting in paper misfeeds.

SPECIFICATIONS

Type	Digital laser copier, desktop
Copy system	Dry, electrostatic transfer
Originals	Sheets, bound documents
Original sizes	Max. A3 (11" x 17")
Copy sizes	Max. A3 (11" x 17") Min. A6 (5-1/2" x 8-1/2") Image loss: Max. 4 mm (5/32") (leading and trailing edges) Max. 4 mm (5/32") (along other edges in total)
Copying speed (one-sided copying at 100% copy ratio)	20 copies/min. (A4 (8-1/2" x 11")) 15 copies/min. (8-1/2" x 11"R) 14 copies/min. (A4R) 12 copies/min. (B4 (8-1/2" x 14")) 11 copies/min. (A3 (11" x 17"))
Continuous copy	Max. 99 copies; subtractive counter
First-copy time	7.2 sec. (except in a power save mode)
Warm-up time	Approx. 35 sec.
Copy ratio	Variable: 50% to 200%, in 1% increments (total 151 steps) Fixed preset: 50%, 70%, 81%, 86 %, 100%, 115%, 122%, 141%, 200% (50%, 64%, 77%, 95 %, 100%, 121%, 129%, 141%, 200%)
Exposure system	Moving optical source, slit exposure (stationary platen) with automatic exposure function
Copy paper feed	Two paper trays with automatic feed (250 sheets each), one bypass tray with automatic feed (100 sheets)
Fusing system	Heat rollers
Developer system	Magnetic brush development
Light source	Xenon lamp
Resolution	Scan: 400 dpi Output: 600 dpi
Gradation	Scan: 256 levels Output: 2 levels
Power supply	Local voltage $\pm 10\%$ (For this copier's power supply require- ments, see the name plate located on the back of the unit.)
Power consumption	Max. 1.3 kW
Overall dimensions (with bypass tray folded)	590 mm (W) x 531 mm (D) (23-15/64" (W) x 20-29/32" (D))

Weight	Approx. 36.2 kg (79.9 lbs.) TD and drum cartridges included
Copier dimensions (without platen cover)	590 mm (W) x 531 mm (D) x 523 mm (H) (23-15/64" (W) x 20-29/32" (D) x 20-19/32" (H))
Operating conditions	Temperature: 15°C to 30°C (59°F to 86°F) Humidity: 20% to 85%
Optional equipment	Single pass feeder (AR-SP2) Reversing single pass feeder (AR-RP1) Electronic sorting kit (AR-EB3) 250-sheet paper feed unit (AR-DE5) 2x250-sheet paper feed unit (AR-DE6) Platen cover (AR-VR1) Facsimile expansion kit (AR-FX2) Printer expansion kit (AR-PB8) PS2 expansion kit (AR-PS1) LCD panel kit (AR-PA1) Job separator tray kit (AR-TR2) Printer server card (AR-NC3D)

- First-copy time may differ depending on operating conditions, such as power-supply voltage and room temperature.
- Some options may not be available in some countries.



Note

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

[illegible]

OPTIONAL EQUIPMENT

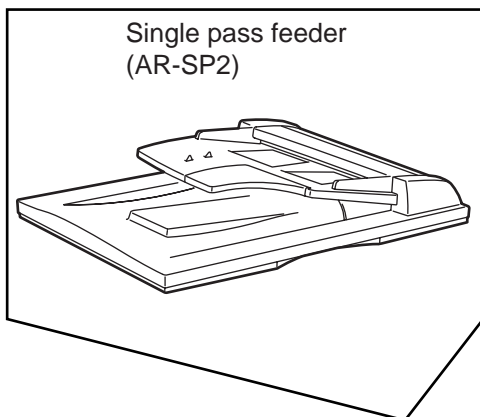
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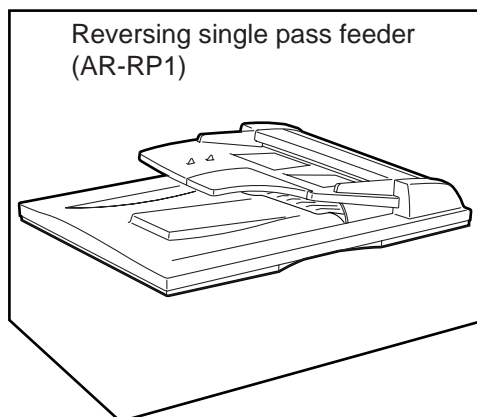
SYSTEM CONFIGURATION

A number of options are available for the copier which allow you to configure a copier system to meet your particular needs. The options include the following.

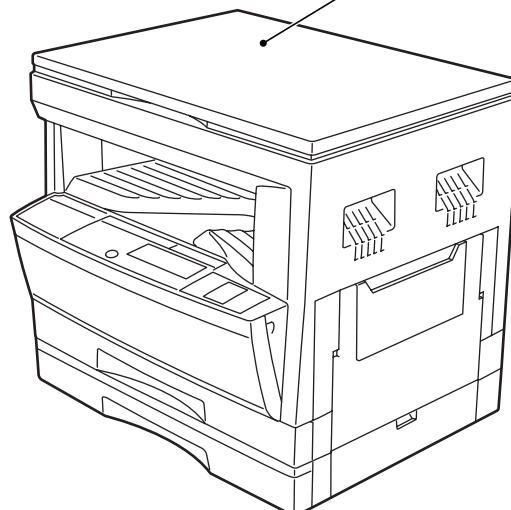
Single pass feeder
(AR-SP2)



Reversing single pass feeder
(AR-RP1)

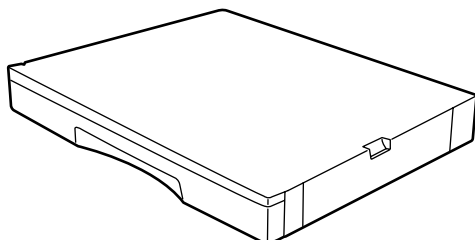


Platen cover (AR-VR1)

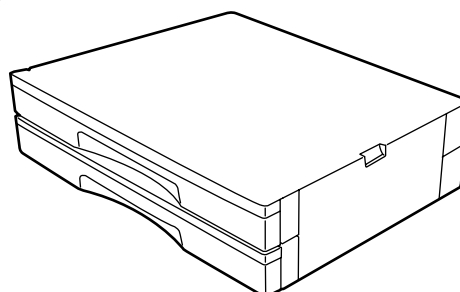


Electronic sorting kit (AR-EB3)
Facsimile expansion kit (AR-FX2)*
Printer expansion kit (AR-PB8)*
PS2 expansion kit (AR-PS1)*
LCD panel kit (AR-PA1)*
Job separator tray kit (AR-TR2)*
Print server card (AR-NC3D)*

* These options are not used for the copier operation.
● Some options may not be available in some countries.



250-sheet paper feed unit
(AR-DE5)



2x250-sheet paper feed unit
(AR-DE6)

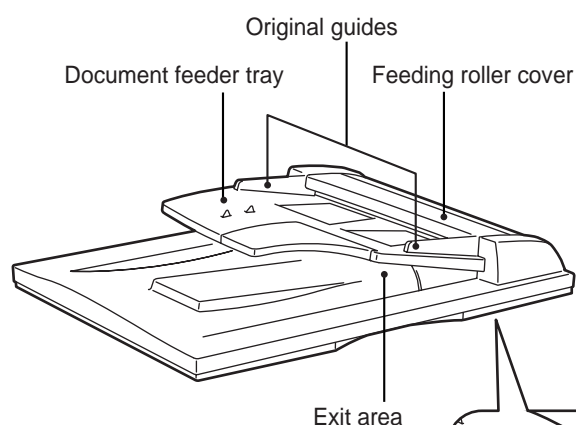
SINGLE PASS FEEDER (AR-SP2) REVERSING SINGLE PASS FEEDER (AR-RP1)

The single pass feeder (SPF) and the reversing single pass feeder (RSPF) hold up to 30 originals for automatic feeding.

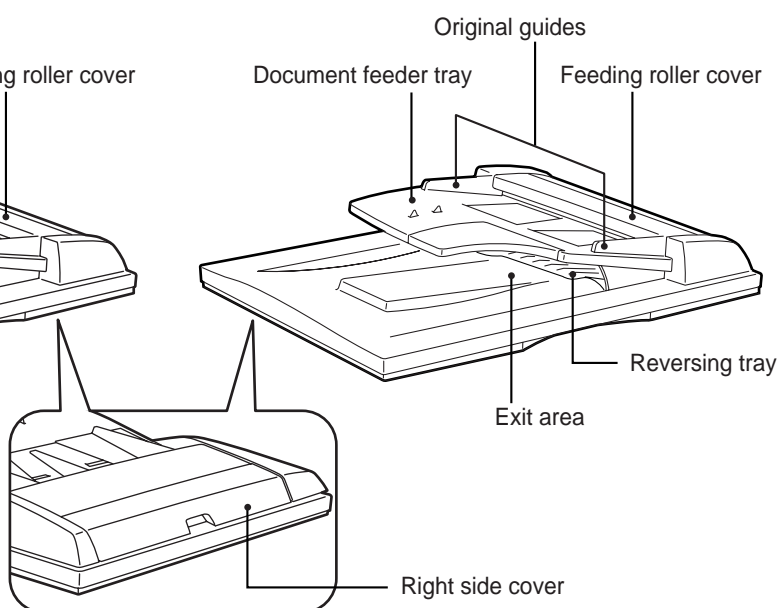
If the RSPF is installed, two-sided originals can be copied automatically without having to manually turn them over.

PART NAMES

AR-SP2



AR-RP1



Single pass feeder (AR-SP2)
Reversing single pass feeder (AR-RP1)

OPTIONAL EQUIPMENT

Specifications

Acceptable originals	<p>Weight: 56 to 90 g/m² (15 to 24 lbs.)</p> <p>Size: A5* to A3 (5-1/2" x 8-1/2"* to 11" x 17")</p> <p>Capacity: Up to 30 sheets provided the total aggregate thickness does not exceed 4 mm (5/32")</p> <p>* 5-1/2" x 8-1/2" size original cannot be used in the duplex mode.</p>
Power supply	Drawn from the copier
Detectable original sizes	A5, A4, A4R, B4, A3 (5-1/2" x 8-1/2", 8-1/2" x 11", 8-1/2" x 11"R, 8-1/2" x 14", 11" x 17")
Weight	<p>SPF: Approx. 5.3 kg (11.7 lbs.)</p> <p>RSPF: Approx. 5.5 kg (12.1 lbs.)</p>
Dimensions	<p>583 mm (W) x 435 mm (D) x 131 mm (H)</p> <p>(22-61/64" (W) x 17-1/8" (D) x 5-5/32" (H))</p>



Note

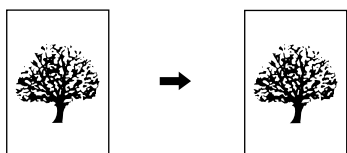
As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

Using the SPF or RSPF

- Be sure to remove any staples or paper clips from the originals.
- Damaged or crumpled originals may misfeed in the SPF or RSPF. It is recommended that these originals be copied from the original table.
- Before placing curled or wavy originals into the document feeder tray, be sure to flatten them. If not, original misfeeds may result.
- For best feeding of originals which have binding holes punched into them, insert them so that the holes are positioned to the right or along the side guides. In this case the settings for margin shift and image rotation may need to be changed to ensure the images are produced in the desired orientation. See pages 61 and 73.
- Special originals such as transparency film and tracing paper should not be fed through the SPF or RSPF but should be copied from the original table.
- The bypass tray and any tray with non-standard size paper cannot be used in the duplex mode.
- If the offset stack mode is enabled using user program No. 19, copies will be output in the group mode. Groups of copies of each original will be offset from the previous group.

Stream feeding mode

If the stream feeding mode has been enabled using user program No. 4, the SPF indicator will continue to blink for approximately 5 seconds after feeding of all originals is completed. While this indicator is blinking, any new originals placed in the SPF or RSPF will be fed and copied automatically. See page 39, USER PROGRAMS.

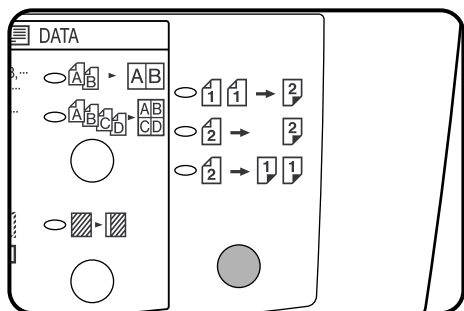
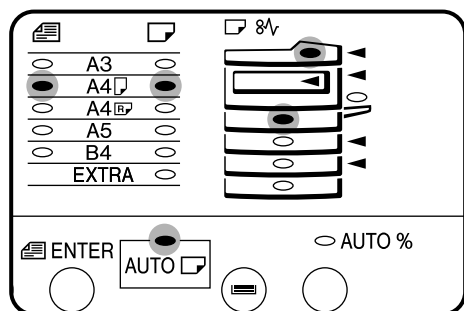
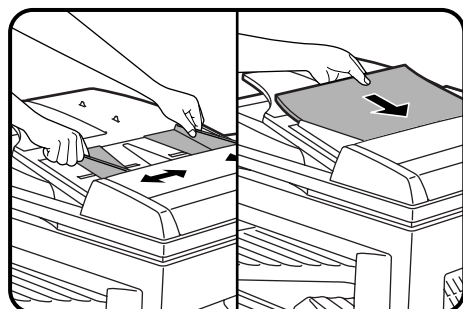


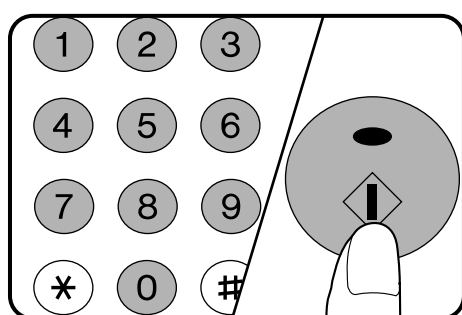
One-sided copies from one-sided originals

- 1 Ensure that no original is left on the original table.
- 2 Adjust the original guides to the size of the originals.
- 3 Set the originals face up in the document feeder tray.
 - The SPF indicator will light up. If this indicator does not light up, the originals are not properly set, or the SPF or RSPF is not properly closed.
 - The ORIGINAL SIZE indicator for the detected original size will light up, and the paper tray with the corresponding paper size will be automatically selected.
 - 8-1/2" x 13" sized paper is detected as EXTRA.
 - The auto paper select function can be disabled using user program No. 8. If this function has been disabled, use the TRAY SELECT key to select the desired paper tray. See page 39, USER PROGRAMS.
 - To copy onto a different size paper, use the TRAY SELECT key to make the selection.
 - The bypass tray cannot be automatically selected.
- 4 Ensure that the one-sided to one-sided copying mode is selected in the ORIGINAL TO COPY section of the operation panel.
 - When no indicator in the ORIGINAL TO COPY section is lit, the one-sided to one-sided copying mode is selected.

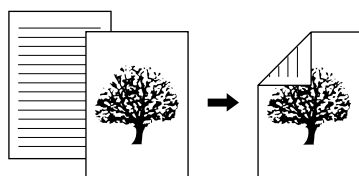
Single pass feeder (AR-SP2)
Reversing single pass feeder (AR-RP1)

OPTIONAL EQUIPMENT

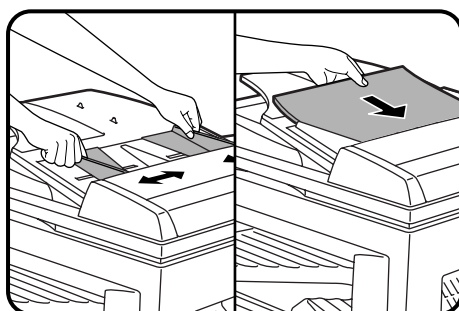




- 5 Set the number of copies and press the START (⬢) key.**
- Press the CLEAR (Ⓢ) key to stop copying in the middle of a run.

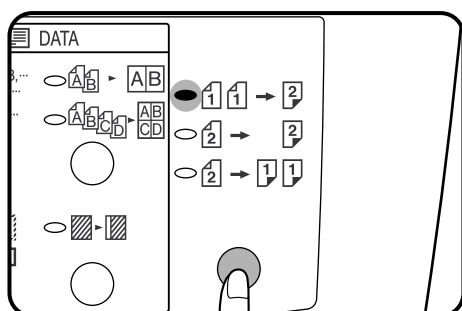


Two-sided copies from One-sided originals



- 1 Ensure that no original is left on the original table. Adjust the original guides to the size of the originals and set the originals face up in the document feeder tray.**

- 5-1/2" x 8-1/2" size copy paper cannot be used .
- If an uneven number of originals are set, the last copy will be one-sided.

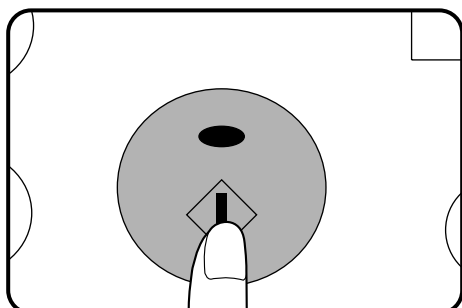


- 2 Use the ORIGINAL TO COPY key to select 1 1 -> 2.**



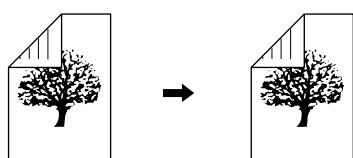
Note

The image of every front side can be rotated 180° using the image rotation feature. This feature is useful when the originals and copies are in the landscape (horizontal) direction and the two-sided copies are to be read by turning them left to right rather than top to bottom. To set this feature, see page 64. This feature can also be set using user program No. 20.



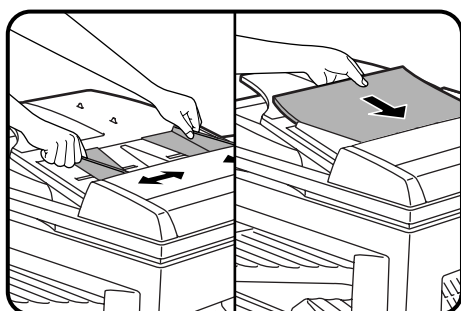
3 Press the START (⬢) key.

- For two-sided copying, a multiple number of copies can only be set if an optional electronic sorting kit is installed.



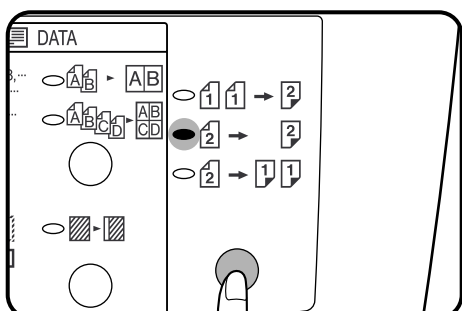
Two-sided copies from two-sided originals

To copy in the two-sided to two-sided copy mode, an optional reversing single pass feeder (AR-RP1) must be installed.



1 Ensure that no original is left on the original table. Adjust the original guides to the size of the originals and set the originals face up in the document feeder tray.

- 5-1/2" x 8-1/2" size original or copy paper cannot be used.

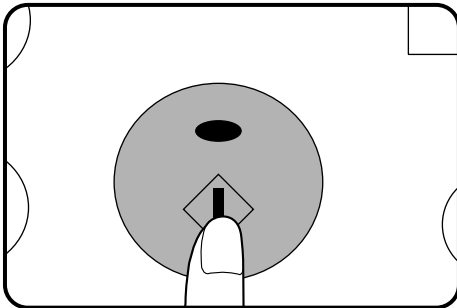


2 Use the ORIGINAL TO COPY key to select ②→②.

- If this mode is selected, the SPF indicator will light up.

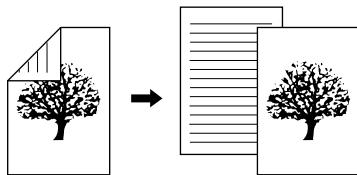
Single pass feeder (AR-SP2)
Reversing single pass feeder (AR-RP1)

OPTIONAL EQUIPMENT



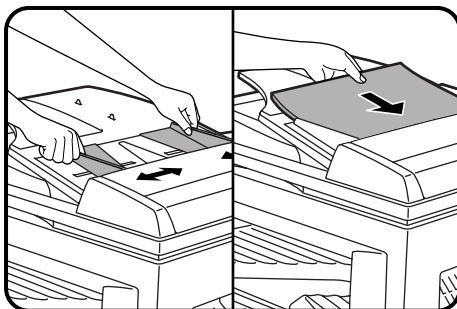
3 Press the START (⬢) key.

- For two-sided copying, a multiple number of copies can only be set if an optional electronic sorting kit is installed.
- Be sure not to touch the originals as they move on the reversing tray. This may cause misfeeds.



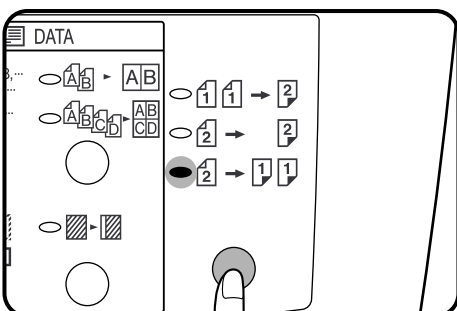
One-sided copies from two-sided originals

To copy in the two-sided to one-sided copy mode, an optional reversing single pass feeder (AR-RP1) must be installed.



1 Ensure that no original is left on the original table. Adjust the original guides to the size of the originals and set the originals face up in the document feeder tray.

- 5-1/2" x 8-1/2" size original cannot be used.

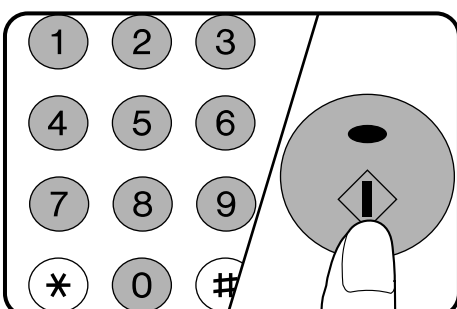


2 Use the ORIGINAL TO COPY key to select 2 → 1 1.

- If this mode is selected, the SPF indicator will light up.



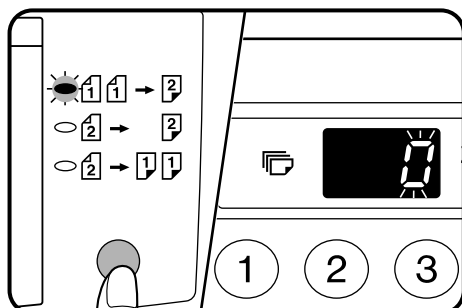
The image of every front side can be rotated 180° using image rotation feature. This feature is useful when the originals and copies are in the landscape (horizontal) direction. To set this feature, see page 64. This feature can also be set using user program No. 20.



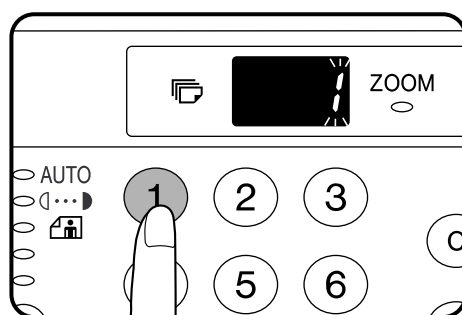
3 Set the number of copies and press the START (⬢) key.

- Press the CLEAR (⊙) key to stop copying in the middle of a run.
- Be sure not to touch the originals as they move on the reversing tray. This may cause misfeeds.

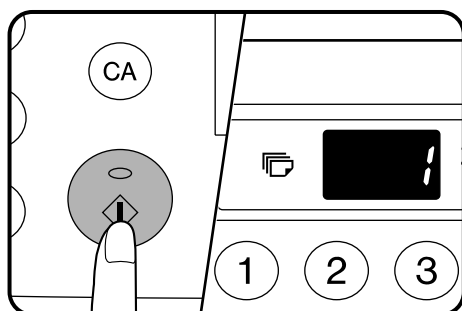
Setting image rotation in duplex copying



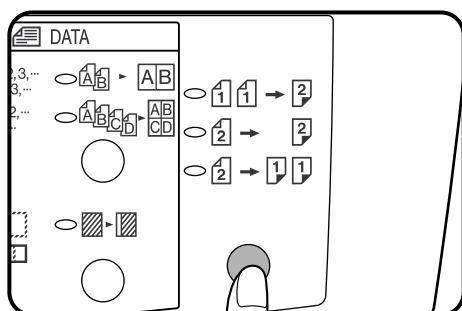
- 1 Press and hold down the ORIGINAL TO COPY key for approximately 5 seconds until the 1 1 → 2 indicator will blink and the currently selected parameter number will blink in the copy quantity display.



- 2 Select the desired parameter using the numeric key.
 - 0: OFF 1: ON
 - The factory default setting is 0.



- 3 Press the START (⊙) key.
 - The selected parameter will be steadily lit.



- 4 Press the ORIGINAL TO COPY key.
 - The 1 1 → 2 indicator will stop blinking.

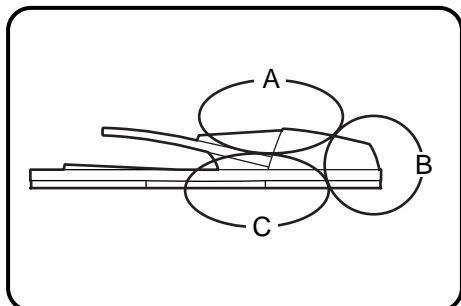


Note The image rotation in duplex copying can be also set using user program No. 20. See page 39.

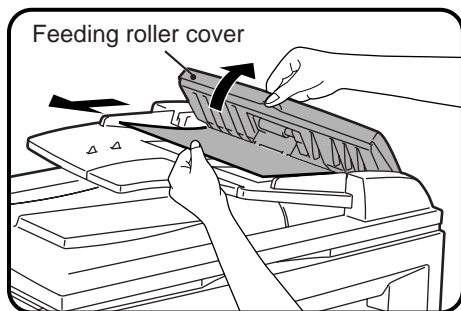
Single pass feeder (AR-SP2)
Reversing single pass feeder (AR-RP1)

OPTIONAL EQUIPMENT

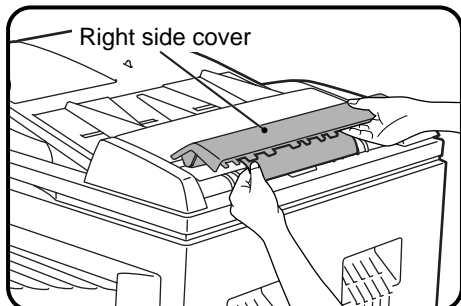
Misfeed removal



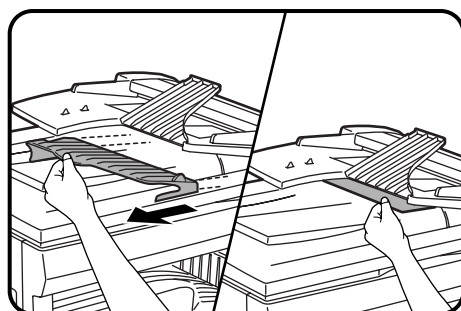
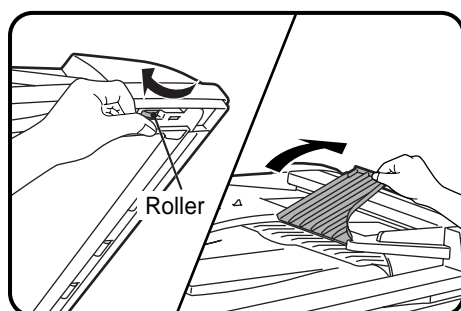
Location A



Location B



Location C



If an original misfeed occurs in the SPF or RSPF, the copier will stop and the red indicator which indicates an original misfeed will blink.

- 1 Open the feeding roller cover and pull the original gently to the left and out from the document feeder tray. Close the feeding roller cover.

- 2 If the misfed original cannot be removed in step 1, open the right side cover and remove the misfed original. Close the right side cover.

- 3 If the misfed original cannot be removed in steps 1 and 2, remove the misfed original from the exit area. Open the document feeder cover and rotate the roller in the direction indicated by the arrow if needed. If the misfed original cannot be easily removed from the exit area, open the front part of the document feeder tray to remove the original. With the RSPF, pull out the reversing tray to remove the misfed original.



Note

With the RSPF, after removing the misfed original from the exit area, be sure to insert the reversing tray into the exit area until it locks in place.

- 4 Open and close the document feeder cover to cancel the misfeed location indicator.



Note

After misfed originals are removed, a number may appear in the copy quantity display, indicating the number of originals that must be returned to the document feeder tray. Return the originals and press the START (⏻) key to resume copying.

ELECTRONIC SORTING KIT (AR-EB3)

If an electronic sorting kit (AR-EB3) is installed, the copier can perform several additional useful functions. These functions are 2 in 1 and 4 in 1, erase, margin shift, and sort/group functions. Also, rotation copying can be performed and a multiple number of originals can be scanned and stored into the memory. The memory can be expanded by adding commercially available memories recommended by SHARP. For details, contact your dealer.



Note

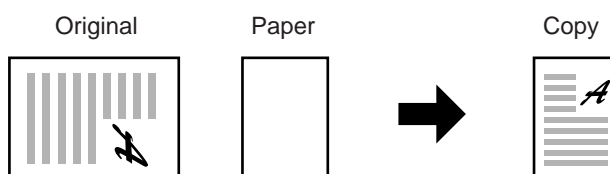
To use the 2 in 1 or 4 in 1 and sort/group functions, an optional single pass feeder (AR-SP2) or reversing single pass feeder (AR-RP1) is needed. When installing an electronic sorting kit, it is recommended to install a single pass feeder or reversing single pass feeder.

Rotation copying

If user program No. 7 is set, the image of the original will rotate when the orientation of the original does not match that of the copy paper. Rotation copying will function only if the auto paper select mode or AUTO IMAGE mode has been selected. Even if user program No. 7 is not set, rotation copying will function when the 2 in 1 or 4 in 1 function is selected. See page 39. However, if enlargement copying onto a paper size larger than A4 (8-1/2" x 11") is performed, the image cannot be rotated.

When this occurs, the detected size and orientation of the original will be indicated by a steadily lighted indicator and a flashing indicator will show the required orientation of the original. The original must be rotated 90° to match the flashing indicator to prevent image loss on the copies.

Example: Copying from an A3 (11" x 17") original onto A4 (8-1/2" x 11") paper






Sort/group

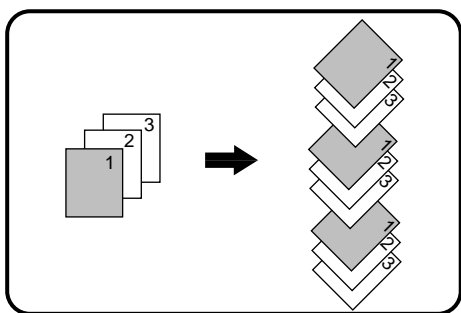
If an optional electronic sorting kit is installed, the copier will have two sorter modes for different copying jobs: one sorts copies into sets matching the sequence of the originals and the second groups copies by originals.

The sort/group feature cannot be used with the dual page copy feature.

To change the SORT/GROUP mode, press the SORT/GROUP () key to select the desired mode.

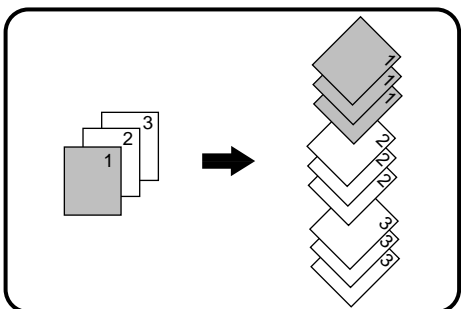
- The capacity of the paper output tray is 250 sheets (150 sheets if an optional job separator tray kit (AR-TR2) is installed). When the number of copies output reaches this limit in a sort or a group copy run, copying will stop, the output tray full () indicator will light and the START key () indicator will blink.

Remove the copies from the paper output tray and press the START () key to resume copying.



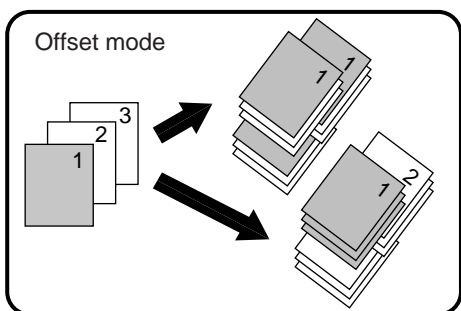
Sort mode

Each set of copies will be sequentially delivered to the paper output tray.



Group mode

All copies of the same originals will be grouped in the paper output tray.

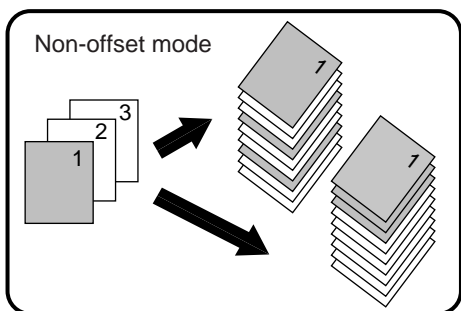


Offset stack

If the offset stack mode is enabled using user program No. 19, each copy will be offset by approximately 25 mm (1 inch). When copying in the sort mode, each collated set of copies will be stacked offset from the previous set. When copying in the group mode, copies will be offset and stacked in groups of multiple copies from the same original.

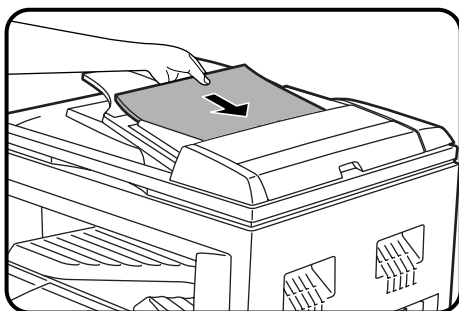
If the offset stack mode is disabled, copies will not be offset.

The offset stack mode is enabled in the factory default setting.

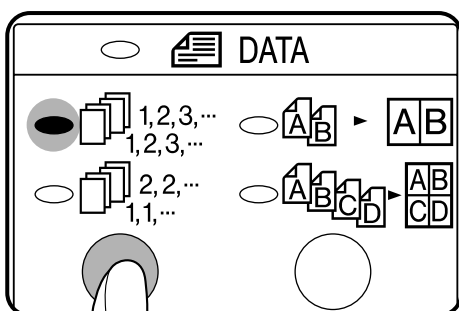


Copying in the sort mode

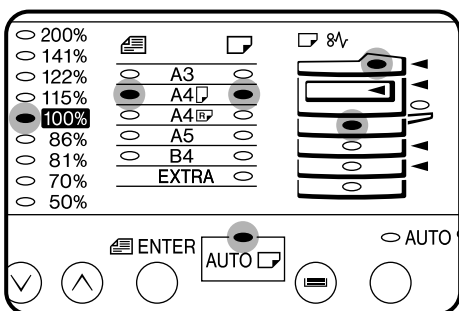
When copying in the sort mode, the original image will be stored in the copier memory each time an original is scanned and copying will start after all originals have been scanned. To copy in the sort mode, an optional single pass feeder (AR-SP2) or reversing single pass feeder (AR-RP1) is needed.



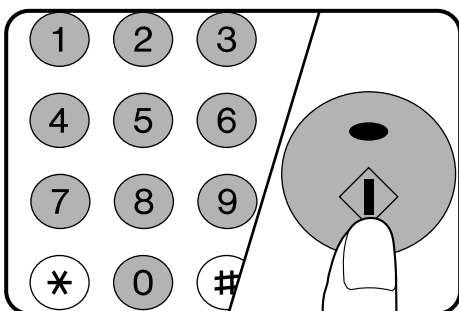
- 1 Set the originals face up in the document feeder tray.
 - The original table cannot be used for sort copying.



- 2 Press the SORT/GROUP () key to select the SORT () mode.



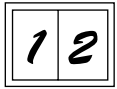
- 3 Ensure that the desired copy paper size is selected.



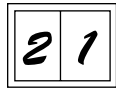
- 4 Set the number of copies and press the START () key.
 - Copying will start after the originals have been scanned. Up to 30 sheets of originals can be scanned. (If originals are fed continuously using the stream feeding mode, up to approximately 60 sheets of A4 (8-1/2" x 11") originals can be scanned. However, when copying originals which require more memory such as photographs, the number of originals which can be scanned will be less.) When the memory becomes full of scanned original image data, the ORIGINAL DATA () indicator will blink.
 - When the ORIGINAL DATA () indicator blinks, the copier will stop scanning. To start copying of scanned originals, press the START () key. To cancel copying, press the CLEAR () or CLEAR ALL () key.

2 in 1 or 4 in 1

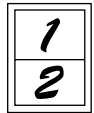
2 in 1 copying



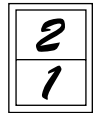
Pattern ①



Pattern ②

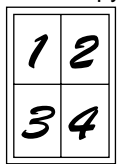


Pattern ①

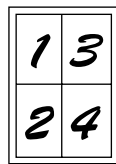


Pattern ②

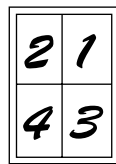
4 in 1 copying



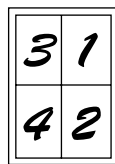
Pattern ①



Pattern ②



Pattern ③

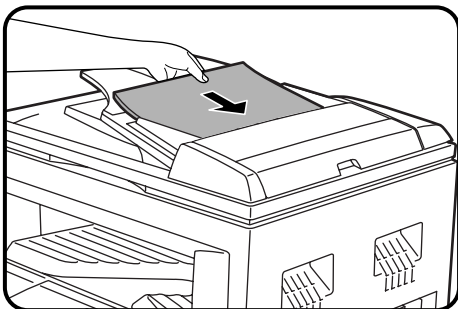


Pattern ④

The 2 in 1 or 4 in 1 feature is used to copy 2 or 4 originals, collectively in a specified order, onto one sheet.

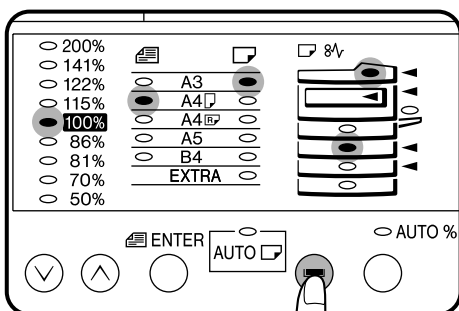
To use these features, an optional single pass feeder (AR-SP2) or reversing single pass feeder (AR-RP1) is needed.

- These features cannot be used with the dual page copying, XY zoom, erase, or margin shift features.
- Copies can be made with or without the border lines shown in the illustration. See user program No. 6 on page 39.
- The order of originals which will be arranged on the copies can be selected by user programs. There are two patterns of layout for 2 in 1 copying and four patterns of layout for 4 in 1 copying. See user program No. 17 and 18 on page 39.
- The 2 in 1 or 4 in 1 feature operates only in the sort or group mode. If the 2 in 1 or 4 in 1 feature is selected when either the sort or group mode has not been selected, the group mode will be automatically selected.



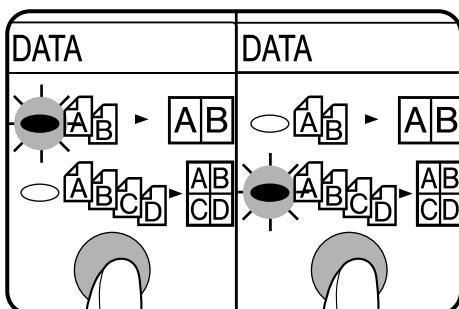
1 Set the originals face up in the document feeder tray.

- The original table cannot be used for the 2 in 1 or 4 in 1 feature.



2 Use the TRAY SELECT (⊖) key to select the paper tray with the desired paper size.

- The bypass tray and any tray with non-standard size paper cannot be used with the 2 in 1 or 4 in 1 feature.

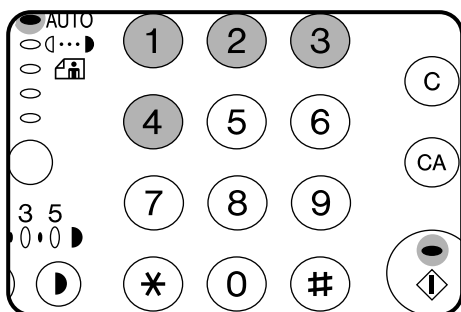


3 To confirm or set the layout pattern for 2 in 1 copying, first ensure that both the 2 IN 1 (AB - AB) and 4 IN 1 (AB - AB/ABCD - ABCD) indicators are not lit then press and hold the 2 IN 1 / 4 IN 1 (AB - AB/ABCD - ABCD) key for more than 5 seconds.

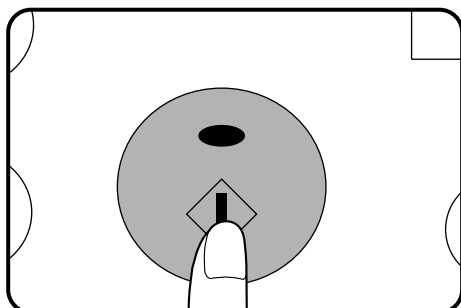
- The 2 IN 1 (AB - AB) indicator will blink and the currently selected layout pattern number will blink in the copy quantity display.

To confirm or set the layout pattern for 4 in 1 copying, use the 2 IN 1 / 4 IN 1 (AB - AB/ABCD - ABCD) key to light the 2 IN 1 (AB - AB) indicator then press and hold the 2 IN 1 / 4 IN 1 (AB - AB/ABCD - ABCD) key for more than 5 seconds.

- The 4 IN 1 (ABCD - ABCD) indicator will blink and the currently selected layout pattern number will blink in the copy quantity display.



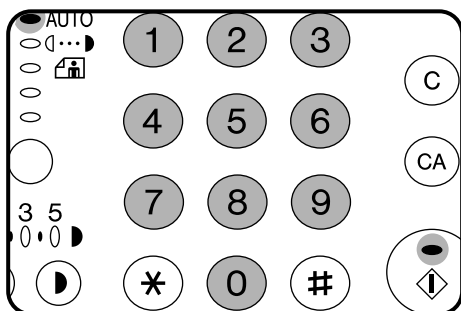
- 4 Enter the desired pattern number using a numeric key.**
- The entered number will blink in the copy quantity display. For layout pattern numbers, see the previous page.



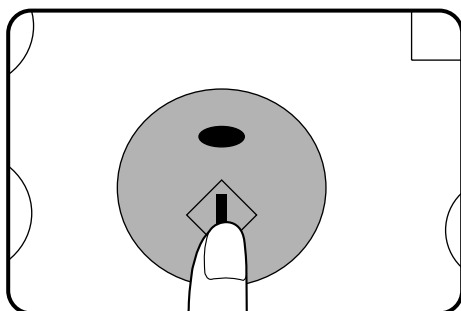
- 5 Press the START (⬢) key.**
- The entered number will light up steadily.

- 6 Press the 2 IN 1 / 4 IN 1 (A/B / A/B C/D) key to complete the selection.**

- The copy ratio will be calculated automatically. If the calculated copy ratio is less than 50%, part of original image may not be copied because the smallest copy ratio is 50%.



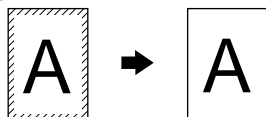
- 7 Set the number of copies.**



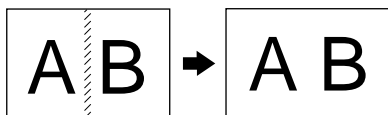
- 8 Press the START (⬢) key.**
- Copying will start after the originals have been scanned. Up to 30 sheets of originals can be scanned. (If originals are fed continuously using the stream feeding mode, up to approximately 60 sheets of A4 (8-1/2" x 11") originals can be scanned. However, when copying originals which require more memory such as photographs, the number of originals which can be scanned will be less.) When the memory becomes full of scanned original image data, the ORIGINAL DATA (DATA) indicator will blink. When the ORIGINAL DATA (DATA) indicator blinks, the copier will stop scanning. To start copying of scanned originals, press the START (⬢) key. To cancel copying, press the CLEAR (C) or CLEAR ALL (CA) key.

Erase

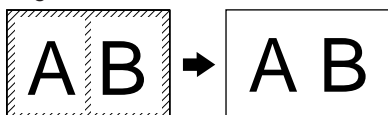
Edge erase



Centre erase

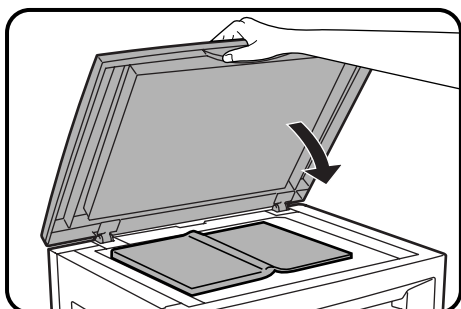


Edge + Centre erase



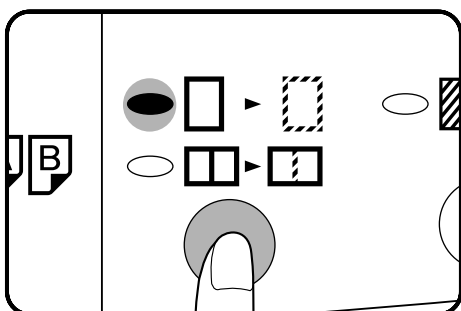
This copier has an edge erase mode and a centre erase mode.

- Edge erase can be used to eliminate shadow lines around the edges of copies caused when thick paper or a book is used as an original.
- Centre erase can be used to eliminate the shadow produced by the bindings of bound documents.
- Edge + centre erase can be used to eliminate shadow lines around the edges of copies and to eliminate the shadow at the centre of copies.
- The erase width can be set from 0 to 20 mm (0" to 1") in five steps using user program No. 16. See page 39.
- This feature cannot be used with the 2 in 1 or 4 in 1 feature.



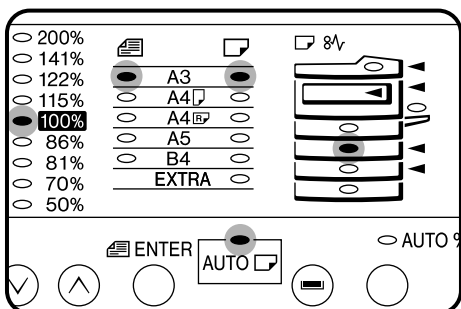
1 Place the original on the original table and close the platen cover.

- If an optional single pass feeder (SPF) or reversing single pass feeder (RSPF) is installed, it can also be used for this feature.



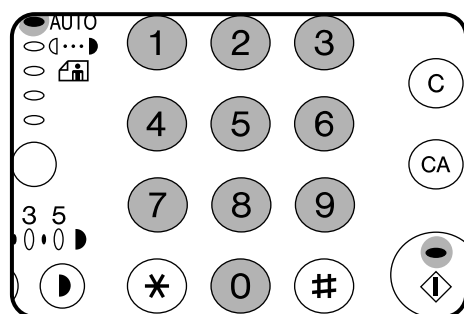
2 Press the ERASE (□-□/□-□) key to select the desired erase mode.

- To select the EDGE + CENTRE ERASE mode, press the ERASE (□-□/□-□) key until both the EDGE (□-□) and CENTRE (□-□) indicators light up.

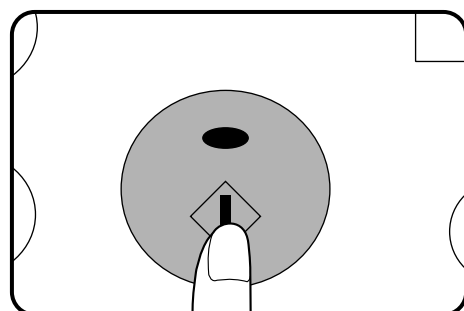


3 Ensure that the desired copy paper size is selected.

- The bypass tray and any tray with non-standard size paper cannot be used for this feature.

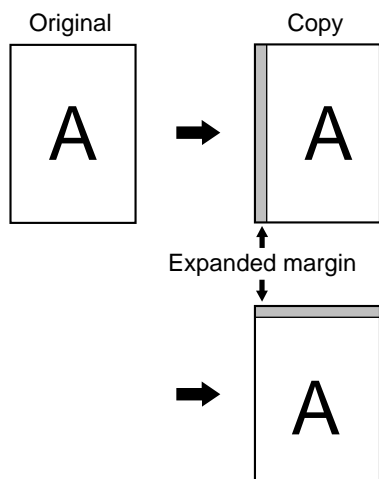


4 Set the number of copies.



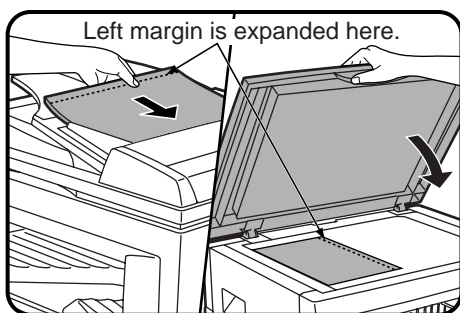
5 Press the START (⬇) key.

Margin shift



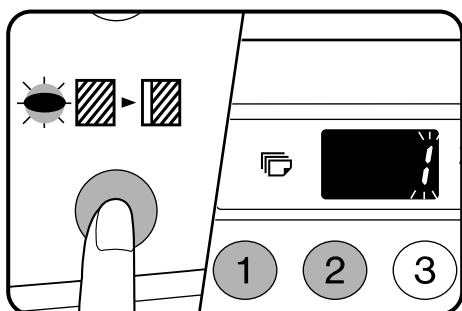
The MARGIN SHIFT feature automatically shifts the text or image to increase the margin by approximately 9 mm (1/4").

- The location of the margin to be increased can be selected to be either at the left edge or the top of the page. To select the location, see step 2 below.



1 Place the original in the document feeder tray or on the original table.

- When copying from the original table and the margin is to be increased on the left side, set the original face down so that the margin side is positioned at the right side.
- If top is selected, set the margin to be expanded to the rear side of the original table or the document feeder tray.



2 To confirm or set the location of the margin, press and hold the MARGIN SHIFT (▨-▨) key for approximately 5 seconds until the MARGIN SHIFT (▨-▨) indicator will blink.

- The currently selected number of the margin location will blink in the copy quantity display.
1: Left 2: Top

Select the desired parameter using the numeric keys, and press the START (⏻) key.

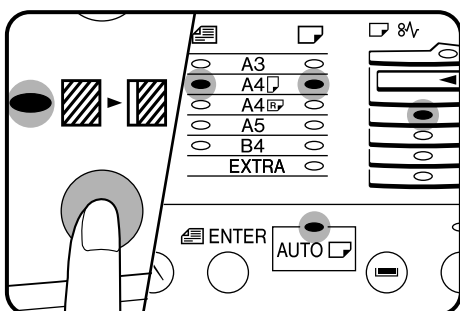
- The selected parameter will be steadily lit.

Press the MARGIN SHIFT (▨-▨) key.

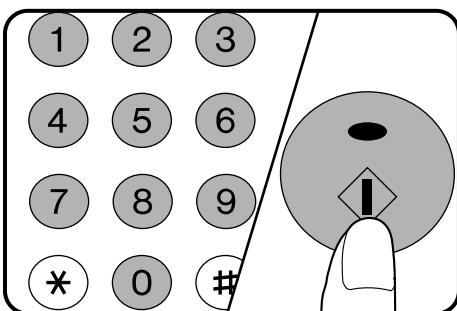
- The MARGIN SHIFT indicator will stop blinking.



The location of the margin can be also set using user program No. 22. See page 39.



3 Press the MARGIN SHIFT (▨-▨) key and ensure that the desired copy paper size is selected.



4 Set the number of copies and press the START (⏻) key.

250-SHEET PAPER FEED UNIT (AR-DE5) 2x250-SHEET PAPER FEED UNIT (AR-DE6)

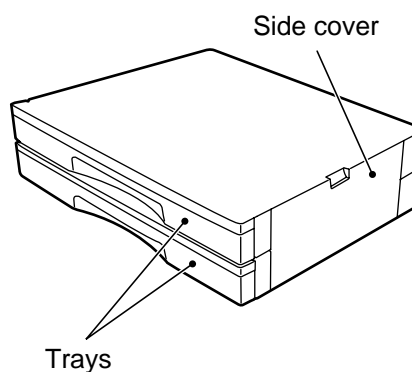
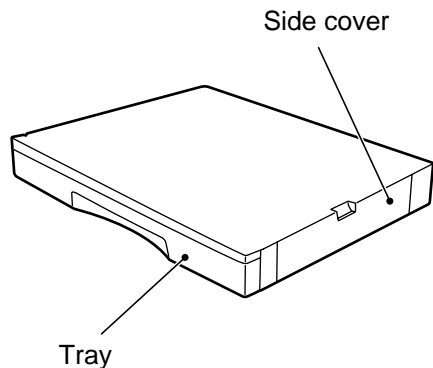
These paper feed units provide the convenience of increased paper capacity for the copier and a greater choice of paper sizes readily available for copying.

The AR-DE5 contains one 250-sheet paper tray and the AR-DE6 contains two 250-sheet paper trays.

PART NAMES

AR-DE5

AR-DE6



250-sheet paper feed unit (AR-DE5)
2x250-sheet paper feed unit (AR-DE6)

OPTIONAL EQUIPMENT

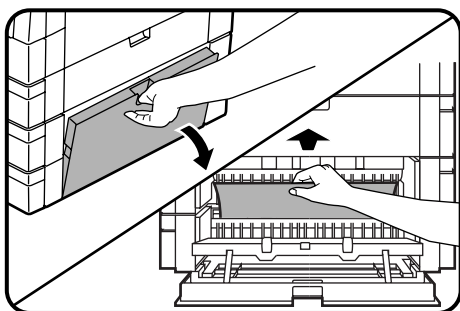
Loading copy paper

The method of loading copy paper for the paper trays of these paper feed units is the same as for the paper trays in the copier. See page 10.

The method of changing the copy paper size is also the same for the paper trays in the copier. See page 11.

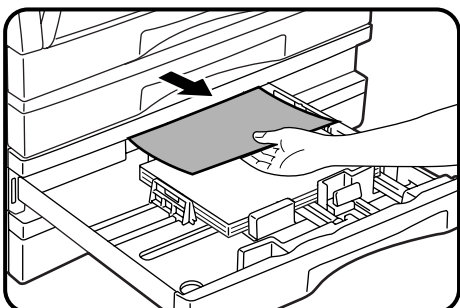
Misfeed removal

The copier will stop when a misfeed occurs. The misfeed (8V) indicator and the red indicator which indicates the paper feed unit will blink.

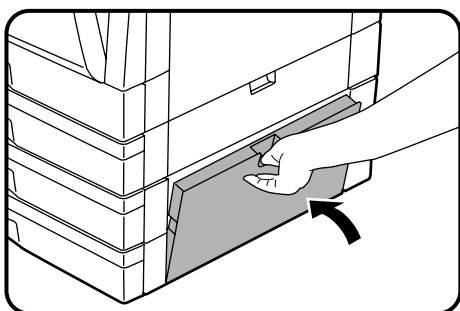


1 Open the side cover of the paper feed unit and remove the misfed paper.

- Be sure to perform this step before pulling out the paper trays. If not, the paper may be torn as the trays are opened.



2 Gently lift and pull out the paper tray which was in use. Remove any misfed paper.



3 Close the paper tray and the side cover.

- Confirm that the misfeed (8V) indicator has gone out.

Specifications

AR-DE5

Copy paper size	A4 to A3 (8-1/2" x 11" to 11" x 17")
Paper weight	56 to 80 g/m ² (15 lbs. to 21 lbs.)
Paper capacity	One paper tray with capacity for 250 sheets of paper
Weight	Approx. 4.7 kg (10.4 lbs.)
Dimensions	590 mm (W) x 471 mm (D) x 88 mm (H) (23-15/64" (W) x 18-35/64" (D) x 3-15/32" (H))
Power supply	Drawn from the copier

AR-DE6

Copy paper size	A4 to A3 (8-1/2" x 11" to 11" x 17")
Paper weight	56 to 80 g/m ² (15 lbs. to 21 lbs.)
Paper capacity	Two paper trays with capacity for 250 sheets of paper each
Weight	Approx. 9.1 kg (20.1 lbs.)
Dimensions	590 mm (W) x 471 mm (D) x 173.5 mm (H) (23-15/64" (W) x 18-35/64" (D) x 6-27/32" (H))
Power supply	Drawn from the copier



Note

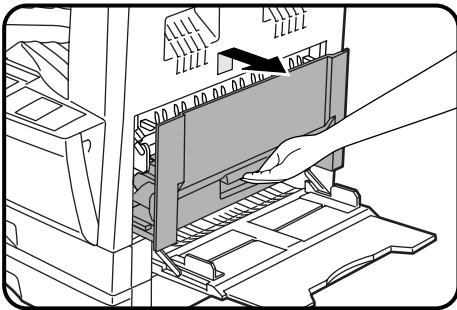
As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

250-sheet paper feed unit (AR-DE5)
2x250-sheet paper feed unit (AR-DE6)

OPTIONAL EQUIPMENT

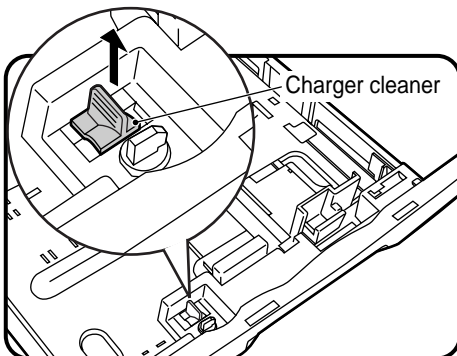
TRANSFER CHARGER CLEANING

If copies start becoming streaky or blotchy, the transfer charger may be dirty. Clean the charger using the following procedure.

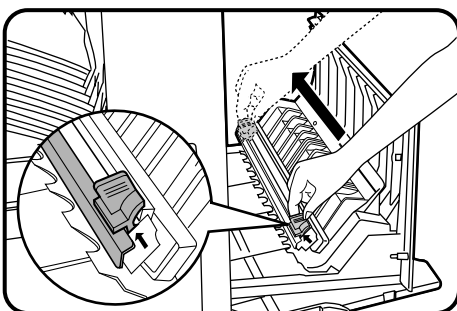


1 Turn the power switch off.

2 Open the bypass tray. Lift slightly on the side cover and slide the cover out until it stops.



3 Gently lift and pull out the upper paper tray and take the charger cleaner out by holding the tab.



4 Set the charger cleaner onto the transfer charger and gently slide the cleaner in the direction indicated by the arrow two or three times.



Caution

Slide the charger cleaner from one end to the other end along the groove of the transfer charger. If the cleaner is stopped on the way, smudges on copies may occur.

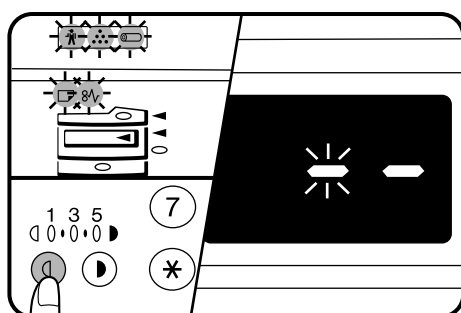
- If the white sheet metal is smudged with toner, wipe it with a soft, clean cloth.

5 Return the charger cleaner to its original position. Close the upper paper tray. Close the side cover by pressing the handle on the cover.

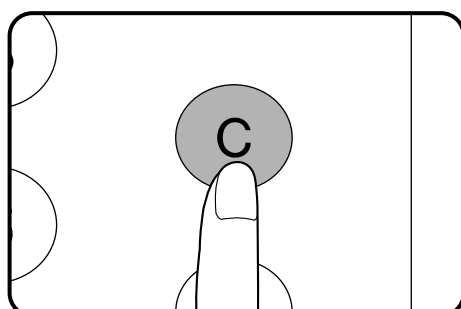
6 Turn the power switch on.

DRUM CARTRIDGE LIFE

To find out how many more copies can be made before the 30,000 mark is reached, follow the procedure described below.



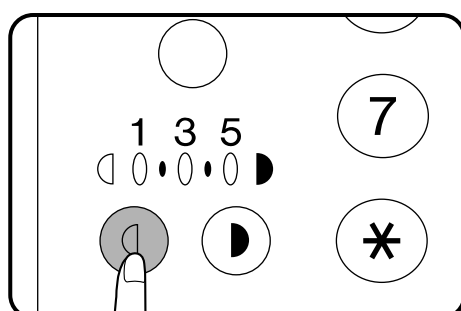
- 1 Press and hold the light (①) key for more than 5 seconds until all the alarm indicators (⚡, ⚙, ☐, and 8V) blink and “—” appears in the copy quantity display.



- 2 Press and hold down the CLEAR (C) key for more than 5 seconds to find out how many more copies can be made.

- The number will appear in two steps, each with three digits.
Example: 1,234 copies can be made before the next drum cartridge replacement.

001 → 234



- 3 Press the light (①) key. The START key (⏻) indicator will light up.



Note

This procedure is not available in the FAX mode.
See Note on page 50.

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MATERIAL SAFETY DATA SHEET

MSDS No. F-00841

Section 1. Product Identification**Product:**

AR-200TD/AR-200MT (Black Toner)

Section 2. Supplier's Name and Address

Sharp Corporation

22-22 Nagaike-cho, Abeno-ku, Osaka, Japan

Local suppliers are listed below. Please contact the nearest supplier for additional information.

(Country)	(Name and Telephone Number)
U.S.A.	Sharp Electronics Corporation Telephone number for information: 1-800-237-4277 Emergency telephone number: 1-800-255-3924
Canada	Sharp Electronics of Canada Ltd. Telephone number for information: 905-890-2100 Emergency telephone number: 1-800-255-3924
United Kingdom	Sharp Electronics (U.K.) Ltd. Telephone number for information: 01923-474013

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Styrene-Acrylate copolymer	29497-14-1	> 88 %	Not listed	Not listed	None
Carbon black	1333-86-4	< 6.0%	3.5mg/m ³	3.5mg/m ³	None
Iron oxide	1309-38-2	< 4.5%	Not listed	Not listed	None
Metal Complex dye	109125-51-1 109125-50-0 84179-66-8	< 1.5%	0.5mg/m ³	0.5mg/m ³	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards:	Acute oral toxicity ----- LDLo of this toner is over 2,000mg/kg. Mutagenicity ----- The result of Ames test is negative.		
Carcinogenicity:	In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.		
Chronic Effect:	In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m ³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m ³) exposure group, but no pulmonary change was reported in the lowest (1mg/m ³) exposure group, the most relevant level to potential human exposures.		
Signs and Symptoms of Exposure:	Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.		
Medical Conditions Generally Aggravated by Exposure:	None		
Emergency and First Aid Procedures:	Inhalation; Remove to fresh air. If effects occur, consult medical personnel. Eye; In case of contact, immediately flush eyes with water for 15 minutes.		

Section 6. Physical Chemical Characteristics

Boiling / Melting Point:	Not applicable	Specific Gravity:	1.1
Vapor Pressure:	Not applicable	Solubility in Water:	Negligible
Vapor Density:	Not applicable	PH:	Not applicable
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Appearance:	Fine powder	Color:	Black
Odor:	Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used):	Not applicable
Ignition Temperature:	>350°C
Flammable Limits:	(LEL); Not applicable (UEL); Not applicable
Extinguishing Media:	CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure:	None
Unusual Fire and Explosion Hazard:	This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact:	None
Sensitivity to Static Charge:	None

Section 8. Reactivity Data

Stability:	Stable
Incompatibility (Material to Avoid):	None
Hazardous Decomposition:	CO and NO _x
Hazardous Polymerization:	Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove):

Use of a dust mask is recommended when handling a large quantity of toner or during long term exposure, as with any non-toxic dust.

Engineering Control / Ventilation:	Not required.
Work / Hygienic Practice:	Inhalation should be minimized as with any non-toxic dust.
Steps to be taken in case of Spill or Leak:	Sweep up or clean up with vacuum cleaner.
Waste Disposal Method:	Waste material may be dumped or incinerated under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.):	Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada):	This product is not a controlled product.		
Transport Information:	This product is not a hazardous material.		
UN No.:	None allocated.		

Section 11. Other Information

References:	IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261 H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299
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MATERIAL SAFETY DATA SHEET

MSDS No. F-30841

Section 1. Product Identification**Product**

AR-200TD/AR-200MD(Black Developer)

Section 2. Supplier's Name and Address

Sharp Corporation

22-22 Nagaike-cho, Abeno-ku, Osaka, Japan

Local suppliers are listed below. Please contact the nearest supplier for additional information.

(Country)	(Name and Telephone Number)
U.S.A.	Sharp Electronics Corporation Telephone number for information: 1-800-237-4277 Emergency telephone number: 1-800-255-3924
Canada	Sharp Electronics of Canada Ltd. Telephone number for information: 905-890-2100 Emergency telephone number: 1-800-255-3924
United Kingdom	Sharp Electronics (U.K.) Ltd. Telephone number for information: 01923-474013

Section 3. Ingredients

<u>Ingredients</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other Limits</u>
Iron powder	7439-89-6	> 92.5%	Not listed	Not listed	None
Styrene-Acrylate copolymer	29497-14-1	< 7.0%	Not listed	Not listed	None
Carbon black	1333-86-4	< 0.5%	3.5mg/m ³	3.5mg/m ³	None

Section 4. Hazardous Identification (Emergency Overview)

Developer is a black powder containing small amounts of toner, and possessing no immediate hazard.

There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner.

Section 5. Health Hazard Data

<u>Route(s) of Entry:</u>	<u>Inhalation?</u>	<u>Skin?</u>	<u>Ingestion?</u>
	No	No	Possible but very unusual.

Health Hazards: Acute oral toxicity ----- LDLo of this toner which is included in this developer is over 2,000mg/kg.

Mutagenicity ----- The toner, which is included in this developer, has been tested on Ames test. The result is negative.

Carcinogenicity: In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors.

While there have been no studies to date using developer, a two-year cancer bioassay using a typical toner preparation containing carbon black (a small amount of toner is included in the developer mixture) demonstrated no association between toner exposure and tumor development in rats.

Signs and Symptoms of Exposure: Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.

Medical Conditions Generally Aggravated by Exposure: None

Emergency and First Aid Procedures:

Inhalation; Remove to fresh air. If effects occur, consult medical personnel.

Eye; In case of contact, immediately flush eyes with water for 15 minutes.

Section 6. Physical Chemical Characteristics

Boiling / Melting Point:	Not applicable	Specific Gravity:	about 7.3
Vapor Pressure:	Not applicable	Solubility in Water:	Negligible
Vapor Density:	Not applicable	PH:	Not applicable
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Appearance:	Fine powder	Color:	Black
Odor:	Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used):	Not applicable
Ignition Temperature:	>350°C
Flammable Limits:	(LEL); Not applicable (UEL); Not applicable
Extinguishing Media:	CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure:	None
Unusual Fire and Explosion Hazard:	This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact:	None
Sensitivity to Static Charge:	None

Section 8. Reactivity Data

Stability:	Stable
Incompatibility (Material to Avoid):	None
Hazardous Decomposition:	CO and NO _x
Hazardous Polymerization:	Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove):	None required under normal use.
Engineering Control / Ventilation:	Not required.
Work / Hygienic Practice:	Not required.
Steps to be taken in case of Spill or Leak:	Sweep up or clean up with vacuum cleaner.
Waste Disposal Method:	Waste material may be dumped or incinerated under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.):	Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada):	This product is not a controlled product.		
Transport Information:	This product is not a hazardous material.		
UN No.:	None allocated.		

Section 11. Other Information

References:	IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261 H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299
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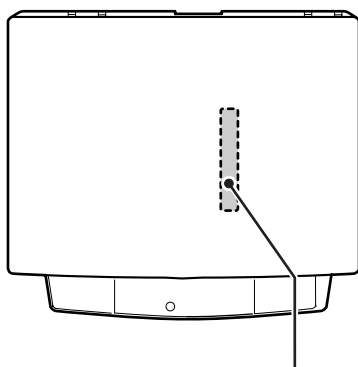
MEMO

MEMO

Warning!

This product is a class A product.

If it is operated in households, offices or similar surroundings, it can produce radio interferences at other appliances, so that the user has to take adequate countermeasures.

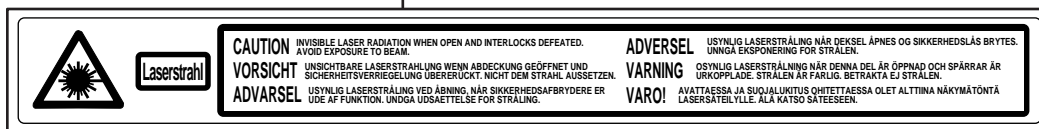


VAROITUS!

LAITTEEN KÄYTTÄMINEN
MUULLA KUIN TÄSSÄ
KÄYTTÖOHJEESSA MAINITULLA
TAVALLA SAATTAA ALTISTAA
KÄYTTÄJÄN
TURVALLISUUSLUOKAN 1
YLITTÄVÄLLE
NÄKYMÄTTÖMÄLLE
LASERSÄTEILYLLE.

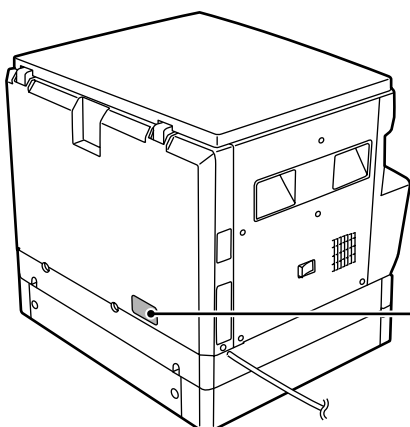
VARNING

OM APPARATEN ANVÄNDS PÅ
ANNAT SÄTT ÄN I DENNA
BRUKSANVISNING
SPECIFICERATS, KAN
ANVÄNDAREN UTSÄTTAS FÖR
OSYNLIG LASERSTRÅLNING,
SOM ÖVERSKRIDER GRÄNSEN
FÖR LASERKLASS 1.



LUOKAN 1 LASERLAITE

KLASS 1 LASERAPPARAT



**CLASS 1
LASER PRODUCT
LASER KLASSE 1**

In some areas, the "POWER" switch positions are marked "I" and "⏻" on the copier instead of "ON" and "OFF".

The symbol "⏻" denotes the copier is not completely de-energized but in a stand-by condition at this "POWER" switch position.

If your copier is so marked, please read "I" for "ON" and "⏻" for "OFF".

Caution!

For a complete electrical disconnection, pull out the main plug.

The socket-outlet shall be installed near the equipment and shall be easily accessible.

This equipment complies with the requirements of Directives 89/336/EEC and 73/23/EEC as amended by 93/68/EEC.

Dieses Gerät entspricht den Anforderungen der EG-Richtlinien 89/336/EWG und 73/23/EWG mit Änderung 93/68/EWG.

Ce matériel répond aux exigences contenues dans les directives 89/336/CEE et 73/23/CEE modifiées par la directive 93/68/CEE.

Dit apparaat voldoet aan de eisen van de richtlijnen 89/336/EEG en 73/23/EEG, gewijzigd door 93/68/EEG.

Dette udstyr overholder kravene i direktiv nr. 89/336/EEC og 73/23/EEC med tillæg nr. 93/68/EEC.

Quest' apparecchio è conforme ai requisiti delle direttive 89/336/EEC e 73/23/EEC, come emendata dalla direttiva 93/68/EEC.

Η εγκατάσταση αυτή ανταποκρίνεται στις απαιτήσεις των οδηγιών της Ευρωπαϊκής Ένωσης 89/336/ΕΟΚ και 73/23/ΕΟΚ, όπως οι κανονισμοί αυτοί συμπληρώθηκαν από την οδηγία 93/68/ΕΟΚ.

Este equipamento obedece às exigências das directivas 89/336/CEE e 73/23/CEE, na sua versão corrigida pela directiva 93/68/CEE.

Este aparato satisface las exigencias de las Directivas 89/336/CEE y 73/23/CEE, modificadas por medio de la 93/68/CEE.

Denna utrustning uppfyller kraven enligt riktlinjerna 89/336/EEC och 73/23/EEC så som kompletteras av 93/68/EEC.

Dette produktet oppfyller betingelsene i direktivene 89/336/EEC og 73/23/EEC i endringen 93/68/EEC.

Tämä laite täyttää direktiivien 89/336/EEC ja 73/23/EEC vaatimukset, joita on muutettu direktiivillä 93/68/EEC.

The CE mark logo label is affixed on an equipment in case that the directives described in the above sentence are applicable to the product. (This sentence is not applicable in any country where the above directives are not required.)

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SHARP CORPORATION